PRACTICAL WATER-COLOR SKETCHING

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WITH SPECIFIC INSTRUCTIONS
FOR MAKING WASH DRAWINGS IN COLOR
AND BLACK AND WHITE

BY

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MADRAS

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CHAPTER I

INTRODUCTORY

OIL painting and water-color painting are easily distinguishable, oil being the principal vehicle in the first with which the prepared pigments are thinned and spread over surfaces, while in the other, water is the vehicle used for this purpose. Again, in this matter of vehicles, with oil-paints there are additional liquids—gummy, viscid, or resinous—mixed with the oil; and in the other method of painting, with an occasional exception for certain processes, only water is the medium used with the prepared colors. Another dissimilarity is that in the typical manner of painting in water-colors, lighter tones of colors are procured by varying proportions of water and that in oil painting they are obtained by the additions of a white pigment or some pigment lighter in tone than the color to be changed. Another way to put it, perhaps, is to say that the white paper answers in water-color to the white pigment of oil painting. In some methods of water-color a white paint is

employed but in pure water-color the variations in colors—referring especially to the lighter tints—are obtained by mixing the paints with water only.

Most of the particulars in this book about method, manner, and technic will have reference to this way of thinning the pigment with water and applying the color in transparent washes with the aid of a soft-haired brush. The surfaces of paintings made by this method are left smooth: a striking difference from works executed in body-color, or those methods in which a thick paint is used, or a white pigment mixed in. If the student masters the technic and handling of transparent water-color, which is the best method for many reasons of artistry, he will find it beneficial even though it is his intention later on to work in one of the other methods of water-colors in which opaque pigments are employed.

In the classification of kinds of water-color we have, as the first division, the method of transparent washes, and a second division to include all the other methods. The transparent wash is so distinctive in method that it very well forms a division by itself. The methods of the second division

REPRODUCED FROM A DRAWING IN TRANSPARENT WASHES COPIED FROM A PICTURE BY SAMUEL PROUT IN HIS BOOK: "RUDIMENTS OF LANDSCAPE." PUBLISHED IN 1813.

In the Print Room of the Metropolitan Museum of Art.

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are diverse in technic and material with varying results as to surface appearances, but in using a pigment of some opacity (body-color) the results are somewhat alike. For example, the paint may be laid on in thick layers very much as it is in oil painting, or it may be put on rather solidly over the surface of the paper in heavy touches in relief resembling the impasto of certain methods of working on canvas. The second division considered again is subdivided into two groups, the first of which is to be designated as body-color, and the other group that of fresco. Of body-color we have tempera work, distemper painting, gouache (pronounced g'wash), and monochrome. Tempera and distemper are terms nearly meaning the same thing but if any distinction arises, distemper is applied to scene-painting and interior decoration while tempera refers to smaller work, which kind is generally in a portable form. Gouache is a French term derived from the Italian *guazzo* (splash), but which itself is from the German, *wasser* (water). In this method the colors are mixed with water, honey, or a gum, and utilized mostly for painting pictures on a small scale. The

word itself besides used for this manner of working also denotes a painting of small size made by the method and generally of a genre subject. We speak of a "gouache" just as we speak of an etching, a mezzotint, or a monochrome, without tacking on the designating substantive of painting, print, or drawing.

Monochromes are now understood as drawings made with one pigment—black, brown, or some neutral dark color—mixed with white. The artist making them may mix the white paint with the dark color to procure the series of intermediate tones for the effects, or he may employ the prepared series of gray colors in tubes. At one time this term monochrome described decorative painting on the outside of buildings that simulated architectural details. For instance, a plain flat façade had painted on it imitations of reliefs, carvings, moldings, and even statuary. It was during the Renaissance period in Italy that this practice prevailed. Vasari in speaking of this work mentioned that besides the predominating grays of these decorations, little touches of red and yellow were blended with them. Then he stated that subtle

tints and shades of other colors were added for the pretended variegated marbles and bronze-green statuary. The modern illustrator, by the way, in his monochromes adds a touch of pale red, or a delicate yellow, in some details of his drawings to give more interest to it and destroy the coldness of tints that would otherwise come out if it were all in pure grays.

As understood at present, tempera painting is that practised when posters are designed, show-card work made, and advertising displays of picturesque and brilliantly colored subjects are painted. The materials now used in these special kinds of art work are designated as tempera colors. They come prepared in a moist form in large tubes, or jars, with their proper amount of glutinous, gummy, or sticky ingredients. Water and dry (powdered) colors are the principal substances used in the preparation of tempera pigments but essentials, as well, are ingredients that will give adhesion to the particles of the coloring-material. There have been many kinds of these ingredients: size made from ordinary glue, gelatine (isinglass), gums (arabic, or tragacanth), a solution

made by boiling glove leather or shreds of parchment. In the ancient days artists employed egg yolks as the tempera medium, though for their blue colors, because of the resulting green color when egg yolks were used, they substituted parchment size, or a gum. Acetic acid, of which vinegar is an impure form, has been recommended as the preservative for the egg yolk. Casein (a modern product) and honey are two more substances used as tempera media.

Fresco painting was the artistic activity preferred by Michael Angelo to exercise his talents for figure drawing and pictorial compositions. It is recorded that Michael Angelo painted only one picture in oil—it was a new process in his time—and that he painted no other as he considered working in oils an artistic activity beneath him and only suitable for women and children. It is on walls and ceilings that the art of fresco painting is applied. It is absolutely essential that the plaster on these surfaces be newly put on, that is fresh (hence its name, *fresco,* Italian for fresh). With the exception of a few colors, pure water is the only medium used in the typical method of the art. The

colors, as to the selection of hues, were in ancient times few in number as many kinds of material had to be rejected since the color particles did not incorporate well with the lime substance of the plaster. The process necessarily is a rapid one as it can be carried out only on wet plaster. This means that just so much plaster is spread by the assistant as the artist is ready to cover for that day, or that number of hours, he plans to work. We can see by this that an artist who is going to paint frescos must be a thorough draftsman, sure of his line, vigorous in every stroke and never in doubt of his powers. Which may all be summed up with the simple statement that he must know how to draw.

Naturally knowing how to draw is indispensable for those aspiring to work in any of the methods of water-colors. But we are very apt, when we apply this need of draftsmanship to landscape, to think in terms of perspective only. Broadly speaking, any reference to perspective in landscape painting is to the succession of receding planes in a view and how they are rendered in their tones and colors to give the effect of distance. Another

qualification is the possession of a feeling for composition. Of course, with this is another accomplishment; that of knowing just what will make a good composition, or putting it in other words, selecting a subject that will adapt itself to the rules for a good composition.

CHAPTER II

COLOR AND LIGHT AS THE ARTIST UNDERSTANDS IT

TO carry on any kind of artistic work we must have the proper tools, the right pigmentary material, and the appropriate surfaces to hold this material to form the pictures. There are, again, a few accessory and incidental conveniences to consider. Then we must acquire skill in handling the tools—the brushes—and experience in managing the pigments. Now managing the pigments implies a thorough understanding of their special properties that give the differing tints, shades, and tones. This understanding must be accompanied by the ability to make just appraisements of the subtleties of color and tone in the varying effects of nature.

In this book we shall offer suggestions as to what colors to use for water-painting; impart information as to how tools and material are managed; and speak of color effects generally. And

we hope to present the details of our subject in such a convincing way as to further the interest in, and appreciation for, landscape art and, as well, the beauties of nature. But, of course, this is all inherent in those who aspire to draw and paint natural scenery.

Artists, craftsmen using pigment, and all workers in color, in their philosophy of color are in agreement with the theory that classifies the principal hues as follows:

Primary colors	Yellow. Red. Blue.
Secondary colors	Orange (yellow and red). Purple (red and blue). Green (blue and yellow).
Tertiary colors	Citrine (green and orange). Russet (orange and purple). Olive (purple and green).

As a general proposition this arrangement forms the basis upon which the color theory of

Brewster (1781–1868) is founded. This theory virtually has been discarded in the world of physical science of to-day for one in which the triad of colors is green, red, and blue. The most puzzling thing about this theory, as the physicist demonstrates it in his experiments, is that green and red produce a sort of yellow. This is not an understandable matter for practical workers in art as they consider yellow as a fundamental or primary color, not possible of production by any mixing of other colors. The Brewster theory fits in with practical color work better as its principles are provable, at least when mixing paints. Because it has to do with this detail—mixing paints—and many other matters arising in the work of artists, this preliminary notice about color theories is mentioned here.

It is now necessary that we give a little attention to terms applied in the discussion of color from the artist's point of view. In most connections the words color and hue, as the artist uses them, mean the same thing. Color itself, to be sure, is in many of its uses synonymous with painty material, or pigmentous matter. But in another fre-

quent application it describes the special chromatic qualities of surfaces, atmospheric conditions, and light effects. Again, it refers to the special character of any paint designated by its name, as the red color of red paint. Though the word hue could be used in this way, too, its strongest signification is that of expressing that quality of a color separating it from other colors. In this sense it applies more particularly to the standard, or typical colors, that have definite hues with generally known names. Again, in another sense it describes, with an adjective, any peculiarity of such standard color that varies slightly from the normal, as when we say: a yellow of a lemon hue. Then mixed colors, of two or more standard colors, are frequently described as of such and such a hue. This hue will be that of the dominant color in the mixture or that toward which it tends. Examples are: purple of a slightly crimson hue; green a little bluish in hue; and brown of a reddish hue. One part of the artist's scrutiny of nature's colors is noticing hues in colors and how they are changed by tinges, tinctures, casts (characteristics), or shades of other colors.

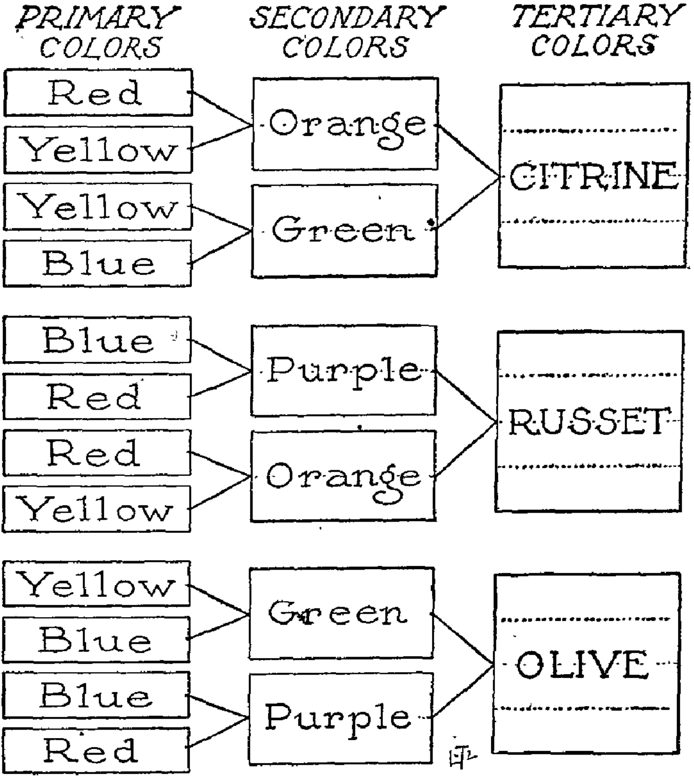


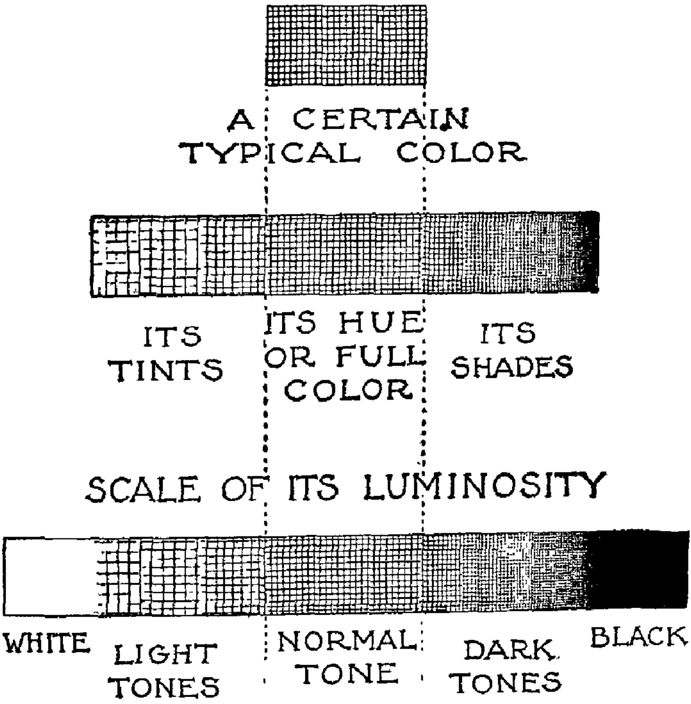
TABLE EXPLAINING COLOR MIXTURES.

Shade in one application could mean a variant hue of a color but its usual import in art refers to a dark tone—or dark hue—of a color. A rough

definition of the shade of a color is how this particular color looks in shade, or shadow. In giving this explanation we are merely regarding the grayish qualities of shades and shadows and ignoring, for the moment, the blue, purple, and brown tones that they more frequently have.

A tint of a color is a patch of that color viewed in a strong light. In pure water-color it is obtained by thin washes of a pigment over white paper. Shades of any color are obtained by adding varying quantities of black to the pigment. In actual practice, in most cases, it is by a dark neutral pigment of some kind other than the one to be shaded. Now a color is best appreciated as to its chromatic value in a light without any sunlight and with dense shadow absent. An ideal place would be near a large window, or under a large studio light; if the judging of colors is indoors. But if it is to be outdoors, the situation should be a place in shade but open to the sky. When a patch of color is moved into the sunlight it takes over a brilliancy that if represented on a surface typifies a tint, as mentioned above, of that color. If the patch of color is moved into any shadow caused by an over-

head object, or looked at in the depths of a room, it becomes dark and represents a shade of that



THE SIGNIFICATION OF HUE, AND THE TINTS, TONES, AND SHADES OF A SPECIFIC COLOR EXPLAINED BY DIAGRAM.

color. The typical hue of a color is that seen in a light, as mentioned, without both sunlight and the obscurity of heavy shadow. It is observed at its very best, for any particular instance, in thick pig-

ment, fresh from the tube, spread out on a surface. Various terms are expressive for this quality: full color; purity of strength; normal tone; standard hue; or saturated color. This latter term signifies that a color has absorbed as much as it will hold of the special pigmentous substance that determines its color as indicated by its name.

The scale of a color shows the gradations from the lightest possible tint through a series of lower-toned tints to the middle point of the normal color and continuing through shades that change to the very darkest, which, in some colors, becomes almost black. This scale also shows the relative illumination, or luminosity, of a color from where it receives so much light as to be nearly white and then through a progressive series of changes to where it is in complete shadow and nearly black. Such a scale, for another explication, represents the tones of a color: the light tones (the tints) on the side toward the light; the normal tone (the normal color) in the middle; and on the other side away from the light, the dark tones (the shades).

It is readily understood that the delicately hued colors cannot give a complete scale from a pale

tint, nearly white, to the other end completely, or nearly completely, black. Rose madder, for instance, could pass from its lightest tints into white, but it would not give a perfect shading into black. Any attempt to produce such a scale would make it necessary to continue it on the dark side with the aid of carmine, burnt carmine, or purple madder. Naturally, the special rose madder quality would be completely lost in these dark shades.

The prevailing hue of an object, or any detail, is the local color of that object, or detail. A local color, as an assumption, is uniform, but the artist notes the variations that shadows and the play of light give it. Then he sees how time and the elements have brought about changes in this color. A simple round pillar with a smooth surface newly painted of one color would illustrate local color with its variations of tints and shades. The tints would be found where the light falls strongest and the shades where no light falls. The local color would be found between these two places of the tints and shades. We are presuming that the coat of paint has a mat, or grain surface, because if it were shiny high lights would be present and per-

haps many strong reflected lights show. If the example were an antique Doric column, we would also have to consider the variations that the wear of time gives to surfaces.

To procure tints in water-color that keep, no matter of what strength, the character of the pigment of which they are made is not difficult as it is merely the simple business of diluting them with water. Tints of viridian, to cite an example, in all their gradations show that they are made with the pigment viridian. But it is a different thing when black is added to many of the colors to produce a series of shades. In some cases when black is employed to darken a color unexpected hues come out. When this happens a neutralizing pigment is added.

Mixed colors of two or several pigments—varying greatly from the fundamental hues—are called broken-colors. They may show in their change from the simple colors an approach to dulness, or a palish effect as if gray had been added. This term of broken-color is better understood by artists when it refers to the various manners of handling pigments in certain of the dissident, if

we may put it that way, schools of painting. We refer to pointillism and other methods of impressionism in which (oil) pigment is put on in points, spots, or definite strokes as "divided color"—for another definition. Naturally when a color of a standard hue is dulled by adding another color, or dimmed by black, its hue is "broken down" and in this sense may be called a broken-color.

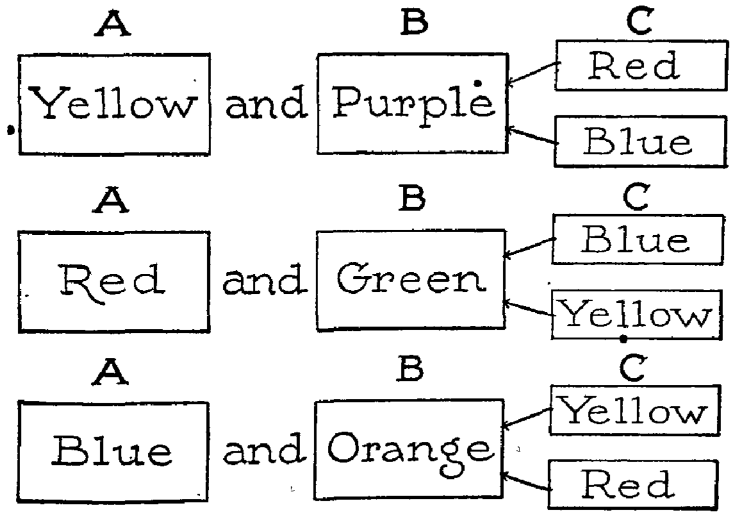
The division of the colors as advancing—yellow, orange, and red; and as retiring—blue, bluish green, and bluish gray, comes in when studying aerial perspective. But its principles are applied to many forms of color work. A poster design with yellow, or orange, letters on a blue ground is a particularly good example to bring out the point. The letters are not only brought forward by the bright colors (yellow, or orange), but by the opposition of the retiring quality of the blue background. The contrast of a gilt frame (yellow, fundamentally) around a landscape painted in retiring colors (tones of gray, or blue) makes the illusion of the third dimension better. This relationship between the tones of a picture and the color of a frame is something for the artist to

keep in mind when he selects a frame for any painting.

Another division of kinds of color in pictures, and other color work, too, is that of warm and cold colors. The general view held with regard to their use is that when a picture has a preponderance of one kind a small portion of the other kind —not too much, but just right—counteracts any monotonous influence of the first kind. If a picture has a prevailing tone of cool bluish grays it is helped by having a touch of warm orange, or yellow, in some detail. A typical illustration is that of a painting of a water-side scene in a misty foggy tone with an orange-yellow light in a cottage window or of some lamps on a boat of a waterscape. The theory is that the eye, preponderately occupied with one kind of color, gladly welcomes a secondary and simultaneous activity from the other kind.

Closely related to the above divisions of kinds of colors and with a similarity of the principles applied, is the theory of complementary colors. With the postulate acceded to that the eye in normal use should be stimulated by pure white light, which is

composed of the three primary colors, we imagine the eye confronted by a design nearly all in tones of green. Now in this case the eye, seeing only two



COMPLEMENTARY COLORS.

The pairs of colors under C show that, in any particular case, the triad of fundamental colors is always complete.

of the primary colors (yellow, and blue in the green), is not properly stimulated and becomes fatigued. The red color is needed to complete the triad of the primary colors that composes, according to one theory, white light. The compensation

is procured then by painting in a touch of red. There are numerous exemplifications of this theory in the picture galleries. The most frequent one is that of a spot of red in the costume of a tiny figure in a very green-toned landscape.

That there is a correlation of the items in the group of advancing-warm colors, and of those in the retiring-cold ones is clearly manifest in the following tabulation:

Advancing-warm colors	*Retiring-cold colors*
Yellow	Blue
Orange	Bluish green
Red	Bluish gray

CHAPTER III

PROPERTIES OF PIGMENTS USED IN THE PICTORIAL ARTS

BEFORE proceeding with the special considerations of water-color paints with reference to their uses we shall make some observations on the properties of pigments in general. One of the first things of interest in looking into the matter is the fact that now artists find all their material ready-made but that in the past they had to supply themselves with everything. Occasionally paintings are found in the galleries showing scenes in studios of the olden times picturing artists at work before their easels. A very noticeable detail in these pictures is that the constructions of the easels were no different from those of our days. The palettes in form were like ours and the manner of holding one the same. But other details show that certain other things were different; for instance, a number of little earthenware pots scat-

tered about on a table close to the artist. These were used to hold the reserve supply of pigments from which portions were taken out to be spread on the palette. Studio interiors in these old paintings often show in the background some one before a slab of stone handling a muller and grinding the raw color to powder and preparing it for the artist. That is an activity artists do not need to concern themselves about now as pigments come prepared in convenient containers. At one time some pigments were held in small bladders of skin. A reminder of this practice in art methods is preserved in the name of a color: bladder green. This color is also known as sap green. When an artist of the olden times needed to replenish any portion of a pigment on his palette, he did not untie the strings that held the bladder of skin together to get any out, but punctured the skin with a small bone-peg. In this way it was possible to squeeze a little paint out and then close the orifice by reinserting the peg. This antedates slightly, in principle and procedure, the way pigment is held now in the "metallic bladders"—collapsible tubes—and procuring some by unscrewing a metal cap,

and then replacing it afterwards. A trivial, but annoying, difficulty that artists have with the caps of the tubes of water-color paints is that they sometimes are hard to remove. When a cap of a

RIJKS MUSEUM AMSTERDAM
Detail of a picture-"AN ARTIST IN HIS STUDIO"
By A VAN OSTADE (1610-1685)

The boy in the background is grinding color.

tube of paint "sticks" it is loosened by heating it with the flame of a match, a moment or so, and, with a rag between the fingers, grasping and unscrewing. The heat both softens any hard paint around the cap and expands the metal sufficiently to make the cap easy to get off.

There are five ways in which water-paints, or their materials, come in the shops: (1) dry powder; (2) dry, in cakes; (3) moist, in porcelain pans; (4) moist, in collapsible tubes; and (5) moist, in glass jars, or chinaware gallipots. The principal pictorial work for which dry powders are used is scene-painting. The workers in this field of art procure the dry colors and mix the paints themselves with water and glue size. They arrange on the work table, the top of which they call the palette, a row of china bowls holding the separate colors mixed with water. Among this collection of color bowls is one much larger, with the "binding vehicle," the size, into which they dip the brush they are working with from time to time as they apply the color to the canvas. A still larger vessel, of some kind, filled with water is also kept on the table. It is with this water that they clean a brush when it needs it, or when they change to another color. A typical selection of scene-painting colors is as follows:

Primrose yellow, yellow ochre, raw sienna, Dutch pink.

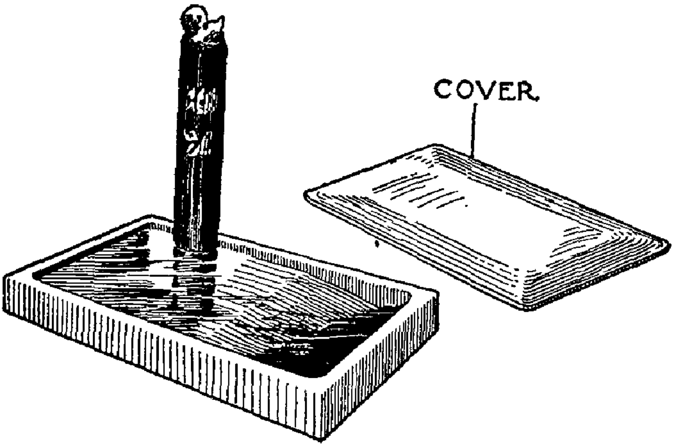
Orange mineral, purple madder, Turkey red, Venetian red, burnt sienna.

(Greenish) sky blue, French blue, Prussian blue.

Paris green, sap green, malachite green, olive green.

Burnt umber, Vandyke brown.

Zinc white and one of the black pigments.



INDIA INK AND SLATE SLANT FOR RUBBING UP LIQUID INK.

The dry cake colors are employed mostly by those who do small work either of an artistic or

perhaps utilitarian nature (not meaning to infer that this kind of work could be inartistic). The method with dry cakes is to rub a brush charged with water against its hard surface until sufficient color is taken up, or the cake is rubbed on the slant-well of a china slab with water much in the same way that a stick of India ink is managed to procure a liquid tint. Some of the special small work for which cake colors are used is map coloring, tinctures in heraldic designing, illuminating, or miniatures.

The word miniature has a curious etymology. It would seem, as it is used in many connections as a term for the minute and things that are diminutive, that it would have its origin from the same root as the terms: minute and diminutive. But it is far from the case. The word miniature is related etymologically to the term minium which was the old name for native cinnabar, or vermilion, or as some say, red lead. Red was, by far, the most frequently used color of the illuminators and rubricators (from *ruber,* red, of course) of the past. As the illuminating art advanced and became more picturesque the initial letters of the

manuscripts passed from simplicity to decoration, to pictorial elaboration and then to real, though small, pictorial work. Naturally, red (minium) continued to be the dominant color in these manuscript pictures and, by one of the curious processes of word formation, minium changed to miniature.

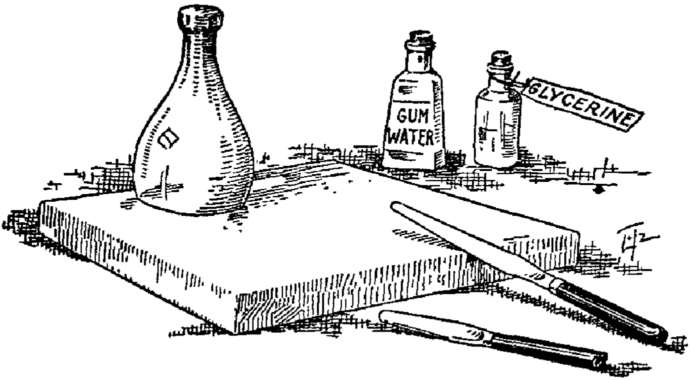
There are two general divisions in the business of combining a flowing fluid with raw paint material: that of oil, and that of water. Under the division of oil are included those employing wax, a volatile liquid, and some sort of oleaginous, or greasy material. In the case of water-paints, very little of anything else but water is used. When preparing the moist colors, those coming in pans, tubes, and jars, the important thing to consider is the nature of the binding medium. This will be something with qualities of adhesiveness and viscosity. By the latter term is meant, generally, soft, viscous, egg substances employed for tempera. This does not concern us now. We are interested in water-colors and their fluid composition. A typical manner of their preparation is to combine dry powder, water, gum arabic, and a drop or so of glycerine. The glycerine is added to keep the paint

from drying hard. In spite of this some of the paints in the artist's color box will dry as hard as stone. Even some collapsible tube colors become dry. The only thing to do when this happens to a tube color is to break it open, by tearing the thin metal, and re-grinding the pigment. For this purpose the practical worker supplies himself with a heavy glass plate, or a marble slab, and a muller. With these articles, a little water and some glycerine to mix in, any dried paint may be put into its proper moist condition again. Dry powdered colors may also be rubbed up with these articles to make some special pigment the artist desires. Gum water, a liquid which designers use to glaze or brighten some colors, is also employed here.

A saccharine substance refined from honey called levulose is used as a binding material in some grades of water-paints. Pure honey or any other sweet stuff cannot be used, even though anciently honey was used in pigments. One reason for not using honey is that it draws flies. This is no trifling matter as any one knows who has ever worked over a drawing, or plan of a utilitarian nature, and has been exasperated by a fly, wet

with ink, or color, walking over a large area of pure white paper.

It is due mainly to glycerine that the prepared moist colors are kept in their proper condition unless there are exceptions where manufacturers have found other means to procure this result. In-



GLASS MULLER AND OTHER THINGS FOR GRINDING AND MIXING WATER-COLORS.

cidentally, it is a good idea, when a sketching box with some pan colors is to be laid aside for a time, to let fall a drop of glycerine on those colors likely to dry quickly. Moist colors in pans and tubes are those employed by water-color artists generally. If the work is in the studio the tube colors are the

most convenient to use while the pan colors are generally preferred to fit out the sketching boxes.

It is the highest grade of paints of superior qualities that the water-colorist employs for pictures that he intends to frame, pictures which are generally thought of as belonging to the fine arts to distinguish them from other pictures relegated—not always justly—to the lower grade of commercial art. There are some excellent water-paints offered by the colormen for this work. Of the several kinds are: tempera or mat colors; poster colors; and colors for show card designing. There is not a large selection of hues of the tempera colors, only the brightest and clearest ones are included. Vividness of color and definite chromatic qualities are wanted in commercial art. These paints, contained in tubes, are of a thick consistency (body) and are laid on the surface in thick patches and applied by heavy brush-strokes. The tempera artists of the early period of art coated their completed pictures with a varnish and now likewise the modern tempera artist paints over his work a coating of varnish (copal usually) to render it waterproof. For color work such as

PIGMENT AND LIQUIDS FOR WATER-COLOR PAINTING.

large designs, decorative panels, or show window displays that require great quantities of paint, artists take advantage of the low-priced pigments in jars. Although these colors are primarily intended for posters and show cards, they fulfill

every requirement respecting ease of manipulation and clearness of hue. Only the most characteristically showy colors are found: the subtle tones, or dim colors generally, are not included in any list of them. Typical colors are: primrose chrome, Persian yellow, poppy red, magenta, brilliant orange, turquoise blue, orient blue, violet lake, and peacock green.

Degrees of liquidity in water-colors vary. Those that we notice mainly in our instructions are transparent, or nearly so. When in the case of any one of these colors, baring a few exceptions, a tint or shade of it is painted on a surface its exact hue is apparent at once. It is different with the opaque colors. In nearly all of them the freshly painted spot of any certain hue "dries out" to another hue. When an opaque pigment is first painted, and for a few moments afterwards, it is generally darker than when it has dried. This is very puzzling for beginners in opaque painting, but those who are accustomed to its peculiarities are not troubled by it as they soon learn by experience to what shade a particular dark-looking wet paint will dry out.

In some transparent colors there is almost a

limpid quality making them nearly like stains. Pure stains as such will not do for water-color even if in some kinds of picturing in art the work is staining, as it were, an outline drawing. The colored liquids that furnish the basic material of which the lake colors are made are practically stains. They are too thin to use as paints so they are treated by a process of precipitation to make the lake colors. The madder colors, of which there are about a dozen, are typical lake colors.

Certain particulars should be mentioned here about the madder colors. Their coloring principle that is refined from the extract of the root of the madder plant, is called alizarin, which term is slightly changed from the Arabian name for the madder plant and its root. But now the term, once signifying a vegetable product, is so closely associated with colors of coal-tar origin that its real meaning is forgotten. In fact it is generally agreed that when adjoined to any of the madders: crimson, carmine, rose, ruby, purple, or scarlet, it designates these colors as coal-tar products. Although this is the way of the matter, the artificial (coal-tar) alizarin pigments are usually conceded

as durable; some color manufacturers list many of them with their permanent colors.

The permanence of water-colors is an important subject for inquiry by the artist. Many experiments have been made by covering separate patches of various colors and exposing them to variant degrees of strength of light. And in some cases, the results, by different investigators, have not been the same. The principal cause of change in the hues in any water-colors is light, especially sunlight. But this is not the only deteriorating influence, there are others. Gasses, for instance—the common kind from sewers and drains. Then dampness is harmful to a picture if it is kept in any place where this condition prevails. Besides there is the simple chemical action of disintegrating particles in the color, or more especially when two or more are mixed. This latter particular may be avoided somewhat by observing certain rules in mixing pigments.

It is usual for colormen to state in their catalogues what paints of their manufacture they consider permanent and again to give a list of those moderately permanent. This makes it easy for

the artist to make a selection that he feels assured, when he uses them, will give his pictures a certain degree of durability as to hue. There are only a few water-paints that are absolutely fugitive, the colorman usually stating so frankly. The principal ones are: carmines and crimsons from the cochineal scale insect, mauve an anilin color, and then sap green and yellow lake, both made from vegetable susbstances.

A black pigment is not going to be recommended for inclusion in the palette for pictorial water-color painting. But as there are frequent occasions when some special work requires that colors be modified by black a few remarks on the subject will be given now. Black mixed with most colors dulls their hues and gives them a lifeless appearance. But some colors, when lampblack is used, give interesting shades, as crimson lake, carmine, and madder red. These are not only darkened but enriched in hue. Brown madder with lampblack becomes a deep rich color. Indian red with a touch of lampblack comes out in a dark shade almost like a madder color. Browns of various degrees of brownness are made by intermixing a little black

with light red, Venetian red, or burnt sienna. Vermilion, though, if a black is added comes out as a sullied red. Black combined with French blue, Prussian blue, or indigo deepens their tones without making them lose much of their special bluish qualities. Viridian and black in their deeper mixtures make dark, luscious greens. Gamboge with black comes out as unpleasant-looking tarnished green. Black sullies nearly all the yellow colors when the attempt is made to procure darker yellow shades. But Naples yellow with lampblack makes a pleasing warm gray quite suitable for employment as the tones for monochrome illustrations. But it is not the place here to speak of the pigments for black and white work.

CHAPTER IV

QUALITIES AND USES OF WATER-COLOR PIGMENTS

THE list of kinds of paints for water-colors is not as long as that for oil painting, though it is lengthy enough. About 120 different kinds against the 200, or so, of the oil colors. In the following observations in this chapter, and the next, we are going to notice less than three-fourths of the number available, and then in still another chapter select a relatively small number of colors for a palette for landscape sketching. Though we believe that this palette is an adequate one for landscapes, we are aware of the fact that many artists feel that they would like to make a selection of their own. These observations then on pigments may be of some help to any one who wishes to select, or try, other colors.

BLUES

Pale blues—Cobalt, cerulean blue.
Pure blues—Ultramarine, French blue, artificial ultramarine, new blue, permanent blue.
Greenish blues—Prussian blue, Antwerp blue.
Purplish blues—Indigo, intense blue.

As we generally start with the sky—usually a tone of azure—in beginning to paint a landscape; it is only natural that we give our attention first to the blue pigments. Many effects in scenes are in tones of blue. Some artists, seeing how the (bluish) atmosphere overveils everything, render this effect by giving a touch of blue to every detail of a picture. The sketcher will find that he dips the point of the brush into one, or the other, of the blue paints all the time. The bit of pigment that he takes up will be used to modify a color, give a blue cast to another, or dash in a stroke of pure color somewhere. The different blues as to their uses may be divided like this: pale ones for delicate skies, those of a rich color for general effects when the light is brilliant, greenish ones for rich luscious effects, and purplish blues for dark shadows and modifying other colors for other deep shadowy effects.

Cobalt is pre-eminently the blue for skies. It is a good color to mix with pale reds for grays in clouds and distant planes. It is said by some authorities to turn slightly green if not protected by glass from the impurities of the atmosphere. Cerulean blue is a color that exactly matches certain greenish azure skies. It does not wash as smoothly as cobalt. Not that it washes unevenly but particles of pigment settle in the depressions of the paper. For some textural effects this is a desirable feature. Sometimes when a texture like this is wanted in a detail, a gray rock or a wooden structure, cerulean blue could be employed to obtain the grays by mixing it with light red, or whatever color is appropriate. The nearest approximation to this color by mixing is a combination of Prussian blue, Chinese white (only a very little, however), and a tiny touch of a brilliant yellow. The genuine ultramarine is made from lapis-lazuli, a semi-precious stone. It is an expensive pigment; Leonardo da Vinci is quoted as having said respecting the costliness of the raw material for this blue, "One works a year for a little lapis-lazuli." The artificial ultramarine is a satisfactory color for the

sketcher. The terms French blue and French ultramarine usually mean the same (artificial) color; but if the two names are found in the same list of colors, the French ultramarine refers to the more transparent of the two. Either of these two colors could be taken for the typical, or representative, hue of the color blue. French blue and light red, or brown madder, make excellent grays for dark clouds. These blues and the natural ultramarine should not be mixed with the alizarin colors, or the brilliant aureolin. New blue and permanent blue are similar, as to their ingredients, to the artificial ultramarine and either one of the two may be substituted for the more expensive blue when a cheap pigment is desired. New blue in its lighter washes answers rather well for skies where cobalt would ordinarily be the color.

Prussian blue could in some ways be considered a representative hue of blue. It is strikingly resplendent and more forcible as a blue than any of the others. But when closely compared with them it is observed to have a green tinge while ultramarine, even the cheaper substitutes mentioned above, are unqualifiedly blue. Prussian blue has a

wide range of variations in its gradated washes from a very pale blue through a series of clear tints, and smooth shades, to a deep black-blue. As it washes well, the way artists speak of water-colors when they are managed easily, it is a good pigment to make monotone drawings with where, for any reason, the subject is to be painted in blue tones. Its tints, even on rough paper, are smooth and free from granulation. A monotone drawing in blue, it should be remembered, is not a perfect "original" for reproduction by any of the photo-grahpic processes; though it may be copied with a little extra trouble by interposing a color-filter. This blue is a permeating color and difficult to wash off in any attempt to sponge and blot it out, where it is of too dark a shade. Again this permeating quality comes out when it is used with the chrome yellows, or gamboge, to make certain shades of green. That is to say, when Prussian blue is employed with these yellows to obtain greens, only small portions of the blue are required. Similar to this color is Antwerp blue, though a little less intense in hue. It does not hold its color as well as Prussian blue, which itself is

not an absolutely durable pigment, though sufficiently good in this respect to be included in some lists of recommended safe colors.

Indigo is another blue with color particles so fine that it affords even tints without sediment and gives washes free from any grainy effect. Some grades of indigo are slightly greenish, but its characteristic hue is one with a purplish tinge. It has been a favorite with artists not only on account of its "washing" qualities, but on account of the deep tones and rich purple shadows it makes with the bright reds. Mixed with sepia, indigo gives cool grays; and with warm sepia, greenish grays. It is another color that permeates the substance of the paper and so difficult to sponge, or blot out. Intense blue made from indigo, by a certain refining process, resembles it in its dark shades but gives light tints of delicate bluish casts.

Though not included in the tabulation above, we wish to add a word, or two, about smalt, a blue pigment in a class by itself as its origin is entirely different from any of the other blues. It is made from glass colored by cobalt ore. Though this glass is ground as fine as possible in preparing it

for making the pigment, the silicious grains are sufficiently coarse to make it somewhat unsuitable for smooth washes. Smalt is a very old pigment like cobalt in color, with a faint tinge of violet. Though it has been employed in the past on large pictorial work, it is more suitable for designs or illumination.

REDS

Pink reds—Rose madder (varieties of rose madder: rose madder—pink shade, pink madder, rose doré), rose carthame.
Crimson reds—Crimson lake, alizarin crimson, carmine, madder carmine, purple lake.
Scarlet reds—Scarlet lake, alizarin scarlet.
Brick reds—Pale vermilion, orange vermilion, scarlet vermilion, Field's extract of vermilion.
Earthy reds—Light red, Venetian red, Indian red.

It is difficult to decide on the red of all the red pigments as the characteristic hue for that color. Some of the madders with crimson and carmine in their dark shades of full strength have slight tinges of purple. The scarlets tend to orange, and their thin washes have a pink tone. Vermilions have a little hint of orange, and the earthy reds are decidedly brownish. Perhaps the nearest water-

color red pigment that is free of any tinges of purple, orange, or brown is scarlet lake.

Of the pinky reds, the first of the varieties of reds tabulated above, rose madder is the most indispensable. It is especially needful for some delicate sky tints that are made in combination with cobalt. Or in darker tints with cobalt, or French blue, for the grays of clouds. The genuine color is made from the madder-root. An artificial preparation, alizarin rose madder, is an excellent substitute for the genuine color. In some makes it even washes better than the genuine, as that kind is often of a gummy consistency and, in inexpert brush manipulations, makes uneven tints. This can be helped, to some extent, by mixing with it a touch of Chinese white, though not enough of it to destroy the transparency of the color, or alter its rose tint quality. The varieties of rose madder differ mainly from the normal in their degrees of strength especially respecting the paler tints. Rose doré, though, shows a slight tincture of scarlet. Rose carthame is an exquisite geranium pink and a color that may be included in any selection of water-colors intended for pic-

turing flowers, or making garden views. Crimson lake is one of the red colors made from the bodies of the cochineal insect and like all colors made from this material lacks durability. It fades rapidly, and although brilliant in shade and making smooth tints, had best be superseded by the artificial alizarin crimson. This color is also called permanent crimson. Alizarin crimson will, in its pale washes, answer many effects that ordinarily would require rose madder. Carmine and madder carmine are needed by those only who paint flowers, or do miniature work, as the deep shades of alizarin crimson will render almost any effect that would seem at first glance to require the brilliant carmine and madder carmine. It is to be remembered at all times that a bright local color in a view of an object a little distance off is modified by the atmosphere that lies between the eye and this object. We perceive that readily enough in strong colors when they are in the far distance, but we are apt to misjudge colors in planes just a little beyond the foreground. Purple lake, in spite of its name, is a crimson with only a suggestion of purple in its heavy shades. It may do as an extra pig-

ment for those who work in brilliant effects to add to their palette.

Scarlet lake and alizarin scarlet are nearly alike in hue, which is one with a faint tint of orange. Subtle differences in colors, as in these two scarlet reds, are only appreciated by comparing their pigment patches side by side. We do not so quickly perceive the distinctions in reds when they are viewed isolated. Then any special tincture of purple, orange, or brown passes unnoticed.

But it is not possible to miss seeing that a vermilion color is of an orange cast. The qualifying terms applied to the names of the several kinds of vermilion may differ, but there is little difference in the hues of these reds. First, they are a bright orange-red, like the color of new bricks. Next, they are all of a slight opaque consistency, which when solidly painted give dull mat surfaces. It is only the thinnest washes that come out in transparent tints. In color designing any patch of vermilion in full strength that has a dull tone may be brightened by varnishing it with a thin coat of weak gum-water. Care is to be taken that this gum-water is not so strong as to leave a sticky

surface that would cause the paper of another sketch laid over it to adhere. Some grades of vermilion in mixtures with certain other colors combine imperfectly and come out in the heavy washes with a granular texture on rough paper. This may, however, be just the effect wanted, say in a mass of rough rock in which the gray obtained by blue and vermilion gives a varied tone proper to this detail. Incidentally, Prussian blue should not be mixed with vermilion, and it is doubtful whether or not it is safe to mix this red with emerald green or other greens with a copper base. Generally, though, vermilion may be mixed with the various colors of the paint box.

The earthy reds, light red, and Venetian red, are nearly alike in tone. Light red is the most useful and a color that can hardly be done without. Its value is not so much for its full strength of color as for its clear tints and for its help in modifying other colors. Venetian red when thickly painted on gives a dull patch of color, but in the thin watery tints has a great deal of brilliancy. A weak wash of Venetian red is an excellent color to "warm up" the lower part of a sketch—the forward plane

showing the ground—just before the work is started with the other colors. There is a certain likeness of textural quality in a tint of Indian red to that of the other two earth reds, but if a patch of it in a heavy painting is compared with these colors—light red and Venetian red—a tinge of purple is observed in the Indian red. This color, with either cobalt or French blue, makes interesting gray tints for certain details in architectural subjects.

YELLOWS

Typical yellows—Cadmiums, chromes, gamboge, Indian yellow, alizarin yellow.
Bright yellows—Aureolin, lemon yellow, zinc yellow, chrome (lemon) yellow, yellow lake.
Pale (earthy) yellows—Yellow ochre, raw sienna, gold ochre, Roman ochre, brown ochre, mars yellow.
Creamy yellows—Naples yellow: normal and deep shade, *jaune brillant.*

There are three varieties of hue in the ordinary cadmiums: pale, middle (the normal, or typical), and deep. The chrome yellows also have three varieties of hue corresponding somewhat to those of the cadmium yellows. The cadmiums are classed

as permanent colors and the ones to use for important work while the chromes, much less costly, are restricted generally for ordinary pictorial work, as they are not as durable in hue as the cadmium yellows. On account of the chemical antagonism between the constituents of chrome yellow and Prussian blue these colors had best not be mixed. Gamboge is a bright yellow in some tints of a "brassy" color, and in some washes dries with a hard resinous-looking surface. A trifle of Chinese white added to a tint of gamboge will lessen these effects a little and make the color, as it is painted on the paper, softer and of a more delicate tone. One of the expedients to which this color can be put is to glaze (paint a thin coating) over a color that dries with a dull dead surface. It is especially good for patches of dull green foliage that need to be brightened up a bit. If a deep blue color is glazed with a carefully executed wash of this resinous yellow, it will give it a peacock-blue tone. Indian yellow, when it was made according to its ancient formula, was of animal origin but the modern preparation is an artificial color made from coal-tar. This yellow is like gamboge in hue

without its brassy yellow tone. Beautiful greens are made with it by mixing with indigo. The deeper shades of these greens recall the luxuriant verdure of evergreen trees. When any of the dark browns: burnt sienna, sepia, and Vandyke brown, need to be given yellowish light tones that plain water does not make, Indian yellow is the color to use. Alizarin yellow is a rich yellow affording sufficiently brilliant and transparent washes that are useful for rendering some of the glowing effects in sunset skies for which the resplendent colors of the next group of yellows are generally recommended.

The ethereal quality of some pale yellow skies is rendered by thin washes of aureolin, or lemon yellow. Occasionally the tints of aureolin need to be modified by a touch of rose madder. The transparent and delicate tints of lemon yellow when combined with washes of cobalt are effective in rendering the beautiful pale green tones of some skies. Zinc yellow, also called citron yellow, is nearly like lemon yellow and a color that may be substituted for it. Another substitute is the palest variety of chrome yellow, which is designated as

of a lemon hue in the catalogues. Yellow lake has a hue resembling that of gamboge, it has similar varnishy characteristics. Like gamboge, it may be used for the trick of glazing to give more vividness to any greens that come out a little too dark or with dull-looking surfaces. Though fugitive, yellow lake has its uses in providing the artist with certain admirable greens by mixtures with Prussian blue, or indigo.

The most important yellow colors made from earthy substances are yellow ochre and raw sienna. When used pure—mixed with water only—they are ordinarily employed in thin washes. These come out in smooth clear tints without granulation or blotches. They are rarely painted in their full strength but employed mostly for mixtures with other colors or a bit is added from the tip of the brush to a color to modify it. The three next earthy colors, varieties of yellow ochre: gold, Roman, and brown, are needed for special purposes only, or when some artist feels that any of them render effects, as he sees them, better than yellow ochre does. Mars yellow belongs to a series of colors—orange, red, brown, and violet—made

from an earth containing a great deal of iron. It is like yellow ochre but brighter in tone. It affords very transparent washes.

Naples yellow is an opaque cream-colored pigment. Its opacity is not, however, so great as to exclude it in any use for transparent water-color painting. One use is to wash a thin watery tint of it over any cobalt blue sky that came out darker than the artist intended it should be. A point to be remembered is that the tint of Naples yellow must be very thin, otherwise a greenish cast will appear in this blue sky. The creamy-hued Naples yellow is the typical pigment under this name. There is also a darker colored one less frequently known and used. Similar to Naples yellow in its painty consistency is *jaune brillant,* of a pale straw color and adaptable to the same uses. With cobalt it makes a sky tint nearly like cerulean blue in washes that lie smooth and uniform.

CHAPTER V

QUALITIES AND USES OF WATER-COLOR PIGMENTS (CONTINUED)

VIOLETS AND PURPLES

Typical violets—Violet carmine, alizarin violet, mauve.
Reddish purples—Alizarin purple madder, Indian purple.

THERE are only slight variations in the prepared violet colors as to their hues but a great variance in their qualities of permanency. Violet carmine, almost like the color of the flowers of that name, is made from the root of the alkanet plant and, like many colors of vegetable origin, not durable. Its color blackens on exposure to strong light. Alizarin violet, like the vegetable violet in hue, is more durable than this color.

The pigment of a violet hue that is most fleeting is mauve, an anilin or coal-tar preparation and a color that should not be employed excepting for the most ordinary work. When any occasion arises that these violet colors are to be darkened, neutral

tint is the pigment to use as it does not destroy their particular violet quality of hue. Prussian blue would also darken them but in its use some little change in their hues results, although the mixtures will come out as gorgeous shades of deep violet.

Alizarin purple madder has a rich red tone yielding beautiful tints and shades in all degrees of strength. It is one of the few purple water-colors considered as durable. A color suggested as one for the palette for landscape work in the next chapter is brown madder. Now if those who are fond of working with bright colors find this brown madder dull, they may substitute it by this purple madder as it is a color that may be utilized for all the purpose that brown madder is to be recommended for. Indian purple might almost be called a pansy purple. In its heavier shades it has that luscious depth of purple color that some pansy blossoms have. As it is a cochineal preparation it is, to be sure, fleeting and does not hold its hue very well. Nearly all of the violet and purple water-colors are best suited for flower painting and color work requiring brilliant effects as a first consid-

eration, rather than permanence of hue. Ordinarily the landscapist procures the colors for purple shadows in a view by mixing the strongest blues with the brilliant reds.

ORANGE PIGMENTS

Bright orange colors—Cadmium orange, chrome orange.
Dull orange color—Neutral orange.

The two orange colors of cadmium and chrome are nearly alike in hue. The tincture of orange in the first named is not quite as strong as in the chrome color. The principal difference between these two orange colors is the cost and degree of permanence. The chrome orange—only moderately durable—is low in cost, while the cadmium orange is more expensive and given a place in the lists of selected permanent colors. Neutral orange has an indefinite but clear transparent hue somewhat in appearance like a wash of yellow ochre and brown madder mixed. It is utilized mainly for modifying color mixtures, or to make a thin wash of it over a sketch before the principal coloring is started.

GREENS

Earthy green—Terre verte.
Mineral and chemical greens—Oxide of chromium, viridian,* emerald green, malachite green.
Vegetable green—Sap green.
Mixed greens—Hooker's greens: No. 1 and No. 2, Prussian green, olive green.

*The corresponding pigment in oil painting for viridian, respecting hue and nature of ingredients, is *vert émeraude.*

Terre verte, a quiet grayish green, is one of the several greens of the limited palette of the ancient artist. Some of the spots of dull-looking green in the nearly obliterated frescos of the far past were probably made with it. A greenish blue-gray earth is the substance from which this color is prepared. It is more frequently employed in oil painting than in water-color work. In oil painting it comes in useful for the tonal effects of gray-green in which certain quiet landscapes are rendered. The real serviceable green pigments for the aquarellist are those prepared from chromium oxid. The first one we notice is oxide of chromium —as it is listed, with this technical name. It is an opaque color of a grayish (sage) green. It makes

delicate tints of green, either as watery washes, or mixtures with white, well suited to interpret corresponding delicately colored foliage effects. When this same chemical substance of which the color oxide of chromium is made is treated to a refining process it becomes the brilliant green pigment called viridian. This is the important green paint for the water-colorist to have in the sketching box. It is permanent and extremely serviceable for general use in painting effects of green in nature. Emerald green, because of its special kind of green hue, is frequently selected by artists as one of the colors for their palette. Its peculiar bright green is a color matching, in the imitative manner of rendering, certain delicate sky and water effects. This green color is one that cannot be produced exactly by mixing any of the blues and yellows. The nearest approximation in combining colors is procured with viridian, a tiny speck of lemon yellow, and a bit of white. Emerald green, with a copper substance as its basic ingredient, has some objectionable features. One is that it is destructive to some colors, cadmium for instance, or colors having any portion of the ingredient of

which cadmium is made. These are: orient and aurora yellow, Naples yellow, and *jaune brillant.* Then the predominance of copper in its composition gives it a poisonous character that has decided some authorities to discourage its employment in the fine arts. Other copper greens, objectionable for the same reason as emerald green, are malachite green, green bice or green verditer, and verdigris. These are all brilliant greens utilized, in spite of the objectionable features just mentioned, in many forms of commercial art work.

A beautiful clear green, at one time much used, is sap green. It is of vegetable origin, and one of the most fugitive of pigments. The artificial substitute made of yellow lake and Prussian blue is no better in this particular of permanence.

The two grades of Hooker's green are mixed colors prepared by combining Prussian blue and gamboge. Their variation of hue is due to the relative proportions of the pigments. No. 1, bright green with a larger share of gamboge; and No. 2, dark green with a smaller portion. Though serviceable colors to represent the ordinary greens of foliage they are not so frequently applied on ac-

count of the limited degree of permanence of hue. If a tiny portion of gamboge is added to a relatively large portion of Prussian blue, a color is obtained designated by the name of Prussian green. Olive green in color is like that of moss. Its peculiar hue is quite suitable for rendering sober green verdure masses of any sketch in a low key. Olive green is prepared by combining Indian yellow, burnt umber, and indigo. Its hue is also closely matched by mixing Antwerp blue and raw sienna.

BROWN PIGMENTS

Yellowish browns—Raw umber, bistre.
Dark browns—Vandyke brown, Cologne earth, warm sepia, Roman sepia.
Dusky brown—Sepia.
Maroon brown—Brown madder.
Orange brown—Burnt sienna.

The word brown is a term of broad inclusive application for certain fuscous colors that scale from a tawny yellowness to a dusky black. In the series of hues of the normal spectrum, no color seems to answer to brown. A pure brown—a rare color—has an individual character of its own with

no tinge of any other color that might betray it as having been obtained by a mixture. It is an isolated color fact, in other words. Of course, we have browns that are red, yellow, orange, and greenish.

Raw umber is a pale yellow-toned brown that would make an admirable color to use for a wash drawing on tinted paper in imitation of an old master's drawing with (brown) inked contours and high lights painted with white. Bistre is somewhat darker than raw umber and could be used for this same purpose. It was, incidentally, a color by which the old masters dashed in a tint, or shade, over their quill-pen drawings. Bistre is often selected for monotone paintings because it is easily managed respecting the washing of smooth tints in an extended scale of varying tones.

On the first inspection of a series of tints of Vandyke brown it seems as if it could be the representative color for brown. A more careful study shows that the medium strength washes give suggestions of yellow and that only in the heavier shades is it really brown. Vandyke brown is a helpful color to procure, with a green, the dark

verdant shades in heavy foliage masses. If a black paint is wanted and no pan or tube of it is at hand, this brown and indigo will give a blackish pigment that will answer the purpose. Cologne earth, made from the same substance as Vandyke brown but exposed to an intense heat, is like warm sepia, a typical (seal) brown. Warm sepia differs from the normal sepia by a red tinge given to it by crimson, or madder; while Roman sepia differs by showing a tincture of yellow obtained by an addition of sienna. The normal, or natural, sepia is an exceptionally good pigment for monotone drawings of artistic subjects, designs in the arts and crafts, and for plans of engineering or architectural projects. Next to lampblack it is one of the best water paints to employ for making light and shade studies, and to acquire experience in handling the brush, and especially to become proficient in floating in washes of tints and shades—a particular which will be taken up in another chapter.

The color of brown madder is nearly a perfect maroon, or nearly like the red-brown of chestnut shells. It is used to modify the cold tones in

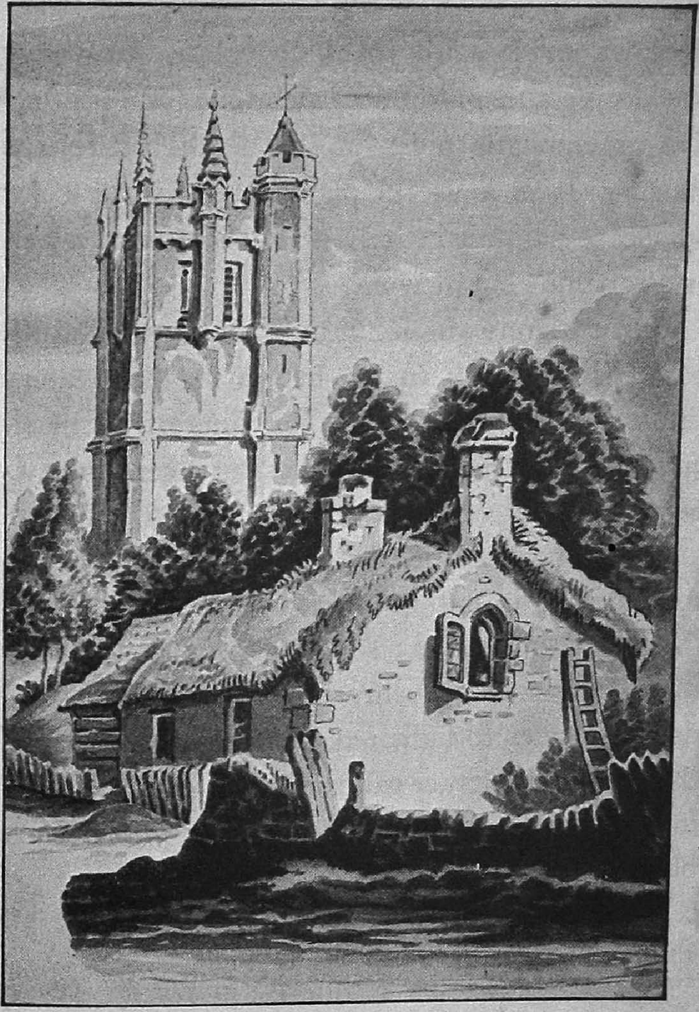
shadows made with the blue colors. In heavy washes it comes out in deep rich tones and is effective as emphatic notes in the depths of foliage clusters. It is a useful pigment for water-color landscape painting; rarely is it absent from a palette for this kind of work.

Burnt sienna, in its heavy coatings of thick paint, is distinctly russet, but in its thin watery tints, is slightly orange. Weak tints of burnt sienna come out as pleasing tones but a certain rawness is present when the color is painted in its full strength. It always needs to be modified. But a use to which it is put is to modify other colors in making them darker; such as the yellows—cadmium, chrome, or ochre. Or it is used to give darker shades to light red, and vermilion. Where the tones of a picture call for brown shadows, they may be procured by mixing this color with French blue.

NEUTRAL COLORS

Purple grays—Payne's gray, neutral tint.
Neutral grays—Charcoal gray, Davy's gray.

The two purple grays are both compounds of the same three painty substances: indigo, crim-



A MONOTONE WASH DRAWING COPIED FROM A PICTURE BY SAMUEL PROUT IN HIS BOOK: "RUDIMENTS OF LANDSCAPE." PUBLISHED IN 1813.

In the Print Room of the Metropolitan Museum of Art.

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son, and lampblack. Payne's gray is the best known of the two and one of frequent employment for monotone wash drawings. Neutral tint is of a paler purple-gray quality than the first mentioned. One use that neutral tint was once put to, was to indicate the shadows and important masses of shade to give the drawing—the foundation—over which the bright colors were afterward painted. This is very mechanical and formula-like. To consider light and shade one thing, and color variations another, is a matter-of-fact way of thinking. Some early English water-colorists worked that way. It parallels the method of some figure painters of the past who laid a foundation of grays for the drawing and then painted the flesh tints and other colors over it.

The washes of charcoal gray have a soft textural quality. A drawing made with it of a plaster cast in skilfully handled washes would be as effective as a drawing of the cast in soft crayons or charcoal. When in any manner of painting a black paint is to be employed for making the gradated shades of some colors, charcoal gray is an excellent medium for this purpose. It does not, as in the

case of some black pigments, sully the colors. The shades of cobalt produced with the help of charcoal gray are especially smooth and soft and retain, in some degree, their quality of the cobalt hue. Lighter in tone than this gray is Davy's gray, another pigment for reducing (shading) other colors.

Black and White Paints in General

The important black water-paint is lampblack. It is the most satisfactory pigment for monotone transparent wash drawings. The washes come out smooth and the shade gradations are easily procured. One feature of lampblack is that tints of it are easily taken off with a sponge and clean water. If the work is on good drawing paper, light and medium tints are so perfectly removed that the pure white paper is exposed, and heavy shadows leave only a slight gray stain. Ivory black of a slightly brown shade gives comparatively warm tints for which reason some artists prefer it. It is not, though, so easily managed as lampblack; but those who work with it overcome any difficulty arising in this respect by a skilful handling of the

washes. While the tints of lampblack are nearly neutral and those of ivory black warm, the tints of blue black are distinctly cold. These points are to be remembered by the water-colorist in choosing any particular black for his work. As the powdered raw material for water-color blacks is produced by burning, charring, or calcining organic matter—resin, for lampblack; ivory for ivory black; and vine-twigs for blue black—some little tinge of soot may be found in certain grades of these colors. Blue black is recommended as the one having least of such particles in its composition.

Chinese white, a zinc oxid preparation, is the safest white to mix with the colors where they are to be lightened in tone or given thickness—body. Occasionally it is found, after a picture in pure transparent washes is finished, that some detail needs to be painted over a dark background. A slight deviation from the rule that all effects should be rendered in transparent washes is permitted here, and the detail painted with a little white mixed with the colors proper for the detail.

Frequently a water-colorist wants a tint of a light tone to lie flatter and smoother than it or-

dinarily would for the particular kind of pigment under consideration. The tiniest bit of Chinese white dropped into such a tint, and the tint stirred well so that the mixing is uniform, will help to make the wash come out smooth, even, and with a slight granular surface. Some white pigments surpass this white of a zinc basis in what is called body. That is, they have more opacity and are easier to paint in thick layers that bring out the quality of whiteness with more emphasis. The whites of lead prepared for both oil and water-color painting have this quality. There is an objection, however, to the whites with a basis of lead. It is on account of the danger of lead poisoning. Blanc d'argent, an intense white water-color, is prepared from white lead. The colorman in offering this white, as well as other white pigments made from lead, usually states this fact in his circulars.

Constant white, a paint generally supplied only in dry cakes and used mostly by miniaturists, is a pigment composed of barium sulfite, a silvery white element of great permanence.

In the many departments of decorative, utili-

tarian, and industrial arts in which water-color methods and processes are those generally utilized, pigments of white and black are used in great quantities. There are special terms for some of these pigments and many are trade names adopted by individual manufacturers. The special quality in any one of the white paints is that it is pure white and that it photographs with the same degree of purity. The black pigments must, as a requisite, make the varying grays in mixtures with white distinctly gray and photograph in their true value. But as the artist who works with them plainly sees, unexpected variations often come out in the grays of some of the combinations of white and black. The most frequent variation is a bluish cast to the grays. To avoid this, monochromists neutralize such mixtures by a touch of brown, or a dark yellow. One of the colors often used for this is bistre. But other artists instead, avail themselves of the prepared monochrome tints in tubes of several grades of gray, known by numbers, and varying from a pale ashen hue to a dusky dark gray.

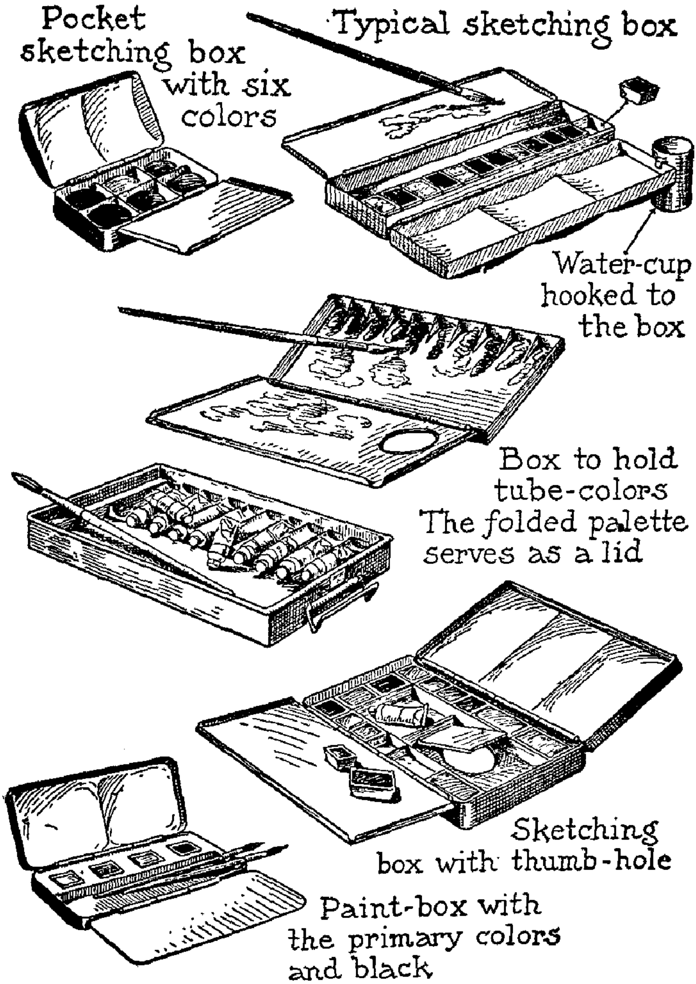
CHAPTER VI

WHAT COLORS TO USE FOR SKETCHING

THE moist colors in the collapsible tubes are the kind to get if large pictures are to be painted or much work done in the studio with the entire interest centred on water-color painting. Though the tube colors, with a suitable box to hold them, are used for outdoor sketching, it is usual to procure the colors in the little porcelain pans. The pan colors are in half pans, and whole pans. A satisfactory kit for outdoor work is a box holding twelve half pans. If, when the pan colors are those worked with, any of the frequently used colors run out, it is easy to replenish them by squeezing out portions from the tubes.

There is a wide diversity in forms of water-color paint boxes. As a general description without regard to specific shape, or size, a water-color sketching box is a flat metal case with the following features: a box part proper with a row of partitions for the pans and a long space for the brushes with enough room to hold a small tube of

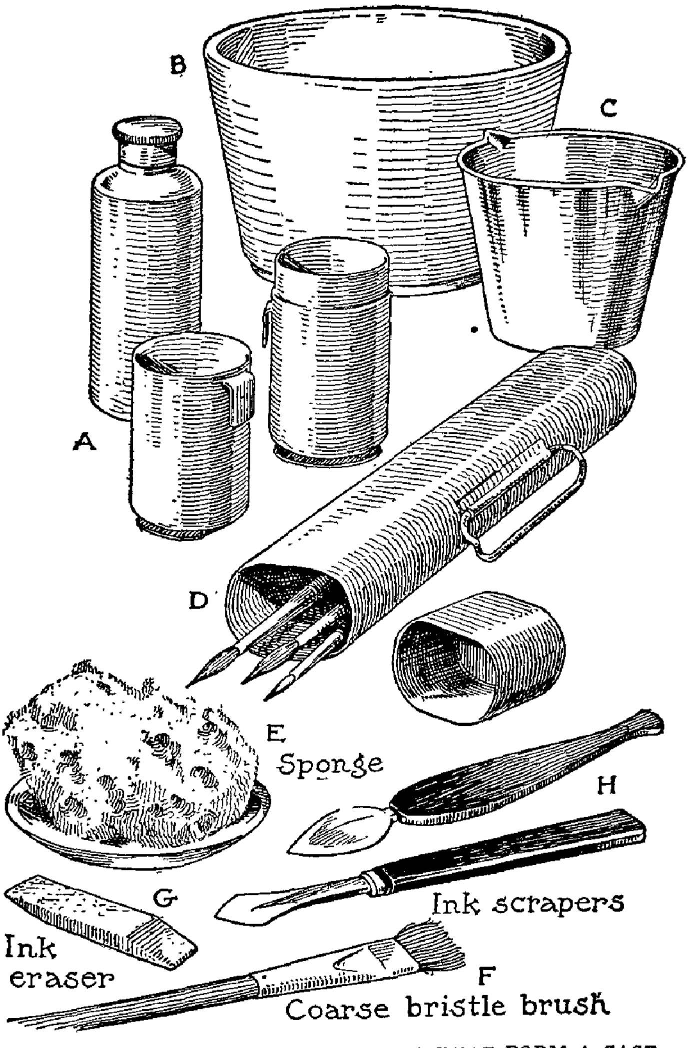
white; the box is closed by two hinged-leaves that fold one over the other; one of these leaves is flat and serves as a palette, the other, the lid proper, shows when the box is open three, or four, concave sections in which tints are mixed and held; underneath the box are two rings fixed so that they fold against the flat of the box, these rings when turned outwardly afford means by which the box is held with the thumb and fingers. This is a typical water-color sketching box. Other arrangements instead of the two rings fixed to the box, have a thumb-hole by which it is held as a palette. Another form of sketching box has the lid detached and has hinged sections that open like a book to form the palette. On this folding palette is a row of partitions into which portions of the series of colors are squeezed from the metal tubes. It is in the box part of this arrangement that the reserve supply of tubes is kept. The inner surfaces of these leaf and folding palettes, as well as the parts with concavities, are coated with a white enamel. This white surface makes it easy to judge the quality of the tints and shades of the color mixtures.



WATER-COLOR SKETCHING BOXES.

The water by which the colors are diluted and mixed is held in a little metal cup. This cup and another like it, by telescoping into one another, form the case that holds the metal water bottle. There is never an adequate quantity of water in this bottle and the cups hold so little that it soon becomes discolored from the many times the brush has been dipped into it when it needed cleaning. If it can be arranged an extra supply of water should be carried along in a larger bottle, and a larger cup, as well, to hold the water. This latter article should be of a non-rusting metal, or a material that would not give the water it holds a deleterious tinge harmful to paints. A sketching box with its full supply of colors is an awkward thing to manage, but to keep the little water cup, hooked to it, from spilling its modicum of water is an additional awkward difficulty. Outdoors, an artist sometimes finds that he can get along by placing the water cup—a large one in this case—on the ground, on a boulder, or a log if one is conveniently near.

Previously in another part of the book details were given of the special qualities of a number of



A. METAL WATER BOTTLE AND CUPS THAT FORM A CASE FOR IT. *B.* LARGE CHINA BOWL. *C.* ALUMINUM CUP. *D.* CASE FOR BRUSHES. *E, F,* AND *G.* THINGS USED IN BLOTTING OUT TINTS. *H.* STEEL SCRAPERS TO SCRATCH OUT HIGH LIGHTS.

water-colors. Some of these pigments, though well-known and of historical significance, are of infrequent use while others hold an important place in the technic of painting and are those found among the colors on the palettes of many artists. Now only a few of these colors, namely twelve, are selected to constitute the palette we recommend for landscape painting. Besides this palette there is one made up, mainly of cheaper pigments. That occasions arise when colors of low cost are required is a consideration which cannot be neglected. Though this list affords us tints, shades, and color mixtures nearly as good as the selected list, it should not be the one used where it is desired that paintings be kept as permanent features and framed and hung in galleries. This is because some of the colors in this substitute list are not durable. Fugitiveness of hue is the chief fault with cheap pigments.

The only extra pigment to go with either of these two palettes is Chinese white in a small tube to be carried along in some place in the sketching box, or with the brushes in their special carrying case.

PALETTES FOR WATER-COLOR PAINTING

Selected colors	*Substitute colors*
Cobalt	New blue
French blue	Prussian blue
Rose madder*	Crimson lake
Light red	Light red
Orange vermilion	Vermilion
Yellow ochre	Yellow ochre
Lemon yellow	Yellow lake
Cadmium (medium)	Chrome yellow (medium)
Burnt sienna	Burnt sienna
Brown madder†	Indian red
Viridian	Sap green
Indigo	Indigo

*Or Crimson alizarin. †Or purple madder.

What Paints to Use for General Effects and for the Colors of Things in Water-Color Painting

Clear blue sky.—A thin wash of cobalt, or modified with a little rose madder, or yellow ochre.

For some *clear azure skies.*—A touch of indigo gives the effect and makes the tint a little smoother. *Grayish blue sky.*—Add a little light red to the cobalt, or where dull gray, brown madder. *Greenish blue sky.*—A second wash of lemon yellow over a cobalt tint will render the effect very well. *Intense blue sky.*—A wash of French blue over a cobalt which has been allowed to dry first. *Delicate pale blue sky.*—Cobalt, lemon yellow, and a trifle of Chinese white thoroughly mixed in with the wash. *Azure green sky.*—Cobalt, a touch of viridian and a little Chinese white. The white is added to these two last sky tints to give the wash more smoothness—as it comes out on the paper—as well as to influence the color. *Heavy sky* (as in a coming storm).—French blue, indigo, and light red; if this sky is decidedly purple in tone, use brown madder instead of light red.

Distant hills and mountains.—Cobalt and rose madder, or French blue and rose madder for vivid effects. For the average effect of distance—light red, or burnt sienna, instead of the rose madder. *Middle distance.*—The same colors as for the far distance excepting that the blue (cold) colors have

their proportions in the tint made smaller, and that the portions of the bright (warm) colors are increased. In the middle distance effects, lemon yellow, or yellow ochre, is added. For effects of the middle distance, or even the far distances that are darker in tone than the average, indigo will be the modifying pigment to produce them. Avoid the use of thick layers of opaque colors like cadmium yellow or Naples yellow for distant effects.

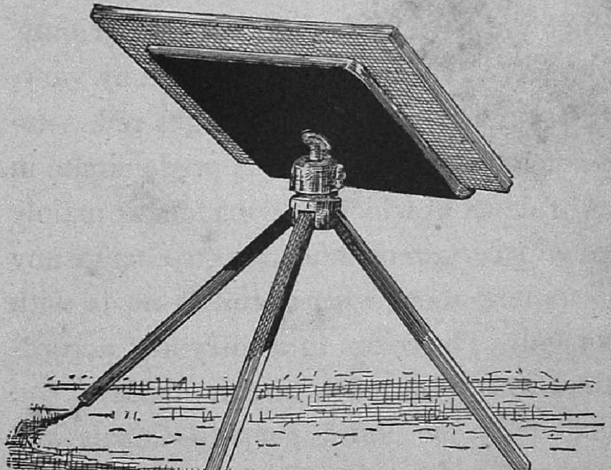
White clouds.—The pale gray shadow sides of clouds are produced by tints of cobalt and light red but some effects are helped by little touches of rose madder in the mixtures. The sunlit side of white clouds sometimes stands in need of a thin wash of yellow ochre, or an extra thin one of cadmium. *Light gray clouds.*—Cobalt, light red, and yellow ochre, or cobalt, rose madder and a little indigo. *Purple clouds.*—Cobalt and rose madder in heavy washes, or French blue and brown madder. If the purple tone in these two mixtures is too vivid, a little light red will neutralize it. *Dark purple clouds.*—The same colors as for purple clouds with indigo as an additional color note. *Heavy murky clouds.*—Indigo and brown madder

with a neutralizing touch of yellow ochre. The yellow will give the murky effect and destroy the intensity of tone in these colors.

Sunset skies.—Pale washes of cadmium, or lemon yellow, softened by Chinese white. Thin washes of rose madder and cadmium, or yellow ochre. For some pink, or red effects, unmixed tints of light red, or vermilion. Vermilion in sky effects is best employed pure and mixed with water only. The red clouds of sunset are represented by varying mixtures of rose madder, and light red. *Sunrise and dawn effects.*—Rosy tints predominate in the skies of dawn in which rose madder is mainly employed with certain modifications to change any rawness coming about when a tint is made with this color only. The colors to modify are, according to the effect: light red or brown madder.

Shadows: Bright bluish purple.—Cobalt and rose madder. *Vivid purple.*—French blue and rose madder. *Deep purple.*—French blue, light red and a touch of rose madder. *Dull blue.*—French blue and light red. *Brownish purple.*—French blue and brown madder. *Blue-gray.*—French blue and burnt sienna. *Vivid brown.*—Indigo and brown

"THE LESSON"
John S. Sargent
(1856–1925)
MUSEUM OF
FINE ARTS
BOSTON



PEN AND INK IMPRESSION OF A WATER-COLOR BY SARGENT IN WHICH A GOOD TYPE OF EASEL IS PICTURED AND AN ENLARGED DRAWING OF SUCH AN EASEL.

madder. *Dull brown.*—Indigo and burnt sienna. A shadow that came out too dark may be made lighter, and given an aerial quality, by painting a thin wash of cobalt over it.

Yellow sand or earth.—Yellow ochre, cadmium, and light red with a speck of cobalt worked into the tints as an incidental touch. *Dark earth.*—Burnt sienna with light red, or yellow ochre.

Roads.—As modern, smooth, hard and shiny roads reflect the color of the overhead heavens, the pigments employed to represent them would be nearly the same as for the particular sky effects under which they are found. More thought is given to this particular of rendering than any local color of road material, be it stone, cement, or asphalt. But in an average case a neutral gray obtained with cobalt and burnt sienna would do.

Gray rocks (that is, rocky masses of a goodly bulk and not stones of missile-size).—Cobalt and light red, cobalt and vermilion, or cobalt and indigo. *Greenish gray rocks.*—Indigo, cobalt, and yellow ochre. Indigo and burnt sienna. *Red rocks.*—Burnt sienna with either vermilion, light red, or brown madder. *Brown rocks.*—Burnt sienna

and French blue. As the surfaces of rocks are of varied textures and often party-colored, success in representing them is as much a matter of special brush handling as of selecting the pigments for their local colors.

Walls (of buildings).—Sunlit walls are rendered in weak washes of yellow ochre, cadmium, or vermilion varied with touches of light red, or burnt sienna. Walls overcast with shadows require the same kind of pigments as other kinds of shadows with occasional variations as suggestions for the local colors of the particular walls that are pictured.

Brick walls and chimneys.—Vermilion and yellow ochre, or cadmium and light red varied in spots by burnt sienna, or brown madder.

Old unpainted wood (of fences, buildings, and other structures).—Cobalt with brown madder, burnt sienna, or light red. *For dark-toned effects.* —French blue and burnt sienna.

Grass and fields.—Viridian and yellow ochre, or for grass that is close to the observer, viridian and cadmium. During the painting, occasionally patches are allowed to come out a pure color—

yellow or green. Or places where the paper shows may even be left. These may be touched up afterwards with a bright yellow, lemon yellow, or a pale blue as if an inequality of the surface caused a delicate shadow tone.

Foreground herbage.—Viridian and cadmium, or lemon yellow. French blue and burnt sienna for the shadows among the leaves, light red and brown madder for the branches and stems, or the occasional dead leaf. Little touches of rose madder for twigs and young leaf buds. Flowers in their proper colors with deft touches of cobalt intermingled to suggest shadows of individual flowers, or petals. Cobalt-gray shadows of this kind accentuate the delicate tints in any medley of colors representing flowers.

Trees: Bright green.—Viridian, cadmium, and lemon yellow. *Deep green.*—Viridian and yellow ochre with a speck or so of French blue. *Moderately toned green.*—Thin washes of yellow ochre, and viridian, with burnt sienna in the foliage depths. *Deep rich green.*—Viridian, indigo, and burnt sienna. *Dull green.*—Yellow ochre and indigo. In general the sunlit sides of trees are pro-

cured by washing in tints of lemon yellow, and the shadow sides by shades mixed with burnt sienna and French blue.

Tree trunks.—If they are gray, cobalt and light red; if brown, yellow ochre and burnt sienna. Brown madder is the color to brighten the effect here and there. A thickly painted touch of French blue suggests incidental shadows. Tree branches are made with similar colors to those for the tree trunks, while twigs may be put in with nearly pure brown madder.

Water and reflections in water.—Pure washes of cobalt, French blue, or if it is in the sketching box, emerald green. It should not be forgotten, however, that this green may be nearly matched by mixing viridian, lemon yellow, and a tiny particle of white. The picturing in any manner of rendering of water effects is dependent, for its success, on the way the strokes are painted. They should be brushed in with a certainty of touch, sharply defined, and be definite in character. Sometimes the strokes are in a darker blue—perhaps indigo—over a previously made thin wash of cobalt, or a pale tint of French blue. In some cases

the first wash is allowed to dry smooth and flat so as to make the darker blue of the indigo strokes sharp and decisive. In other cases the wash is worked on while the first wash is moist so as to give a delicate softness to the effect.

CHAPTER VII

MATERIAL AND TOOLS FOR WATER-COLOR PAINTING

AS the important material of pigments has been considered in preceding chapters it is now in order to give some attention to other kinds of material. The next in importance is that of surfaces upon which the pictures are painted. Paper and papery board are virtually the only material upon which water-colors are painted. One exception is a "Heatherley" canvas—and, of course, we must not forget the fact that the scene-painter, whose pigments are prepared with water, paints on canvas. The special and restricted kind of work, as miniature painting, makes use of ivory as a surface, and the art of illuminating and engrossing, which sometimes combines pictures with its art, employs vellum and parchment, or imitations of these surfaces.

The best grades of water-color papers are handmade of linen rags, or a mixture of linen and cotton rags. The papers are supplied in three kinds of

surfaces: "Not," or cold pressed, with a medium grained surface; "Hot-pressed," with a smooth surface: and "Rough," of a coarse granular surface. Some papers are graded as "good" and others as "retree." This latter term, a corruption of the French word, *retrait,* meaning shrinkage, is applied to any lot of paper of an inferior quality in which a few spots are sprinkled over its surfaces, blemishes found in its fibre, or which contains wrinkles—the result of shrinking.

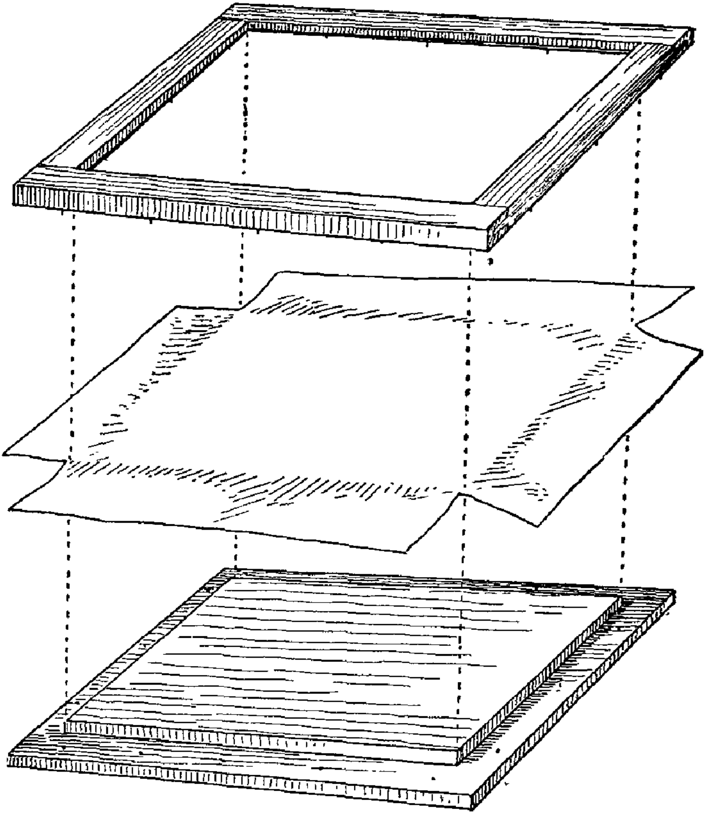
Paper sizes are as follows: 17 by 22 inches, 19 by 24 inches, and 22 by 30 inches. The last named is that size usually kept in stock by the dealers, or perhaps we should say, most frequently supplied. A very large size called Double elephant, 26 by 40 inches, is also available. At one time the colorist did not have the range of sizes of paper to choose from that he has now. Thomas Girtin (1775–1802), the English landscapist, had to procure his paper from a stationer in folded quires, the sheets of which, to work large, had to be spread out. Some of his pictures distinctly show differences of color and texture, especially conspicuous in the sky, the place of this fold. This fault in the cases where

it is found, curiously, has now become proof of the authenticity of a Girtin painting. Illustration board which is a heavy pasteboard, like that used by bookbinders, with a good quality of drawing paper mounted on it, is a frequently utilized surface for water-color painting. Crayon and charcoal papers also make good surfaces for water-color. They are thin papers and "buckle," or swell, in billowy lumps when painted on. This may be obviated by mounting them on cardboard. Some of these papers are tinted in delicate browns, pale blues, or creamy yellows. When pictures are painted on them, say in simple tones or in restricted ranges of hues, the white parts are painted with Chinese white. Such papers, as well as many of the variously hued and beautifully colored papers that the supply houses for printers keep on hand, may be mounted on pasteboard, in which form they are easy to work upon. When the tone in these papers is very dark it is necessary to employ opaque pigments exclusively.

The procedure in mounting paper on pasteboard is the same as that for mounting photographs on cardboard. This is to wet the paper through and

through and then partly dry it between clean blotting paper or newspapers if the ink of the type is not too soft and smudgy. The paste is spread on the back of the paper in the usual way with a broad brush and the paper laid down, face up, on the pasteboard, and smoothed out with a blotter over the paper and pressed against with the palm of the hand. Air bubbles that raise themselves, like blisters, over the paper are squeezed out by a movement of the hand—palm down—outwardly from the centre toward the borders. While drying, these mounted papers are kept under pressure (weights holding them down between two drawing boards). A help in keeping them flat is to paste a piece of ordinary paper on the back of the pasteboard to counteract the tendency that the paper on the face would otherwise have of warping, or bending the board.

When paper is worked on unmounted and merely tacked to a drawing board the swelling, or buckling, from the wet washes does not bother the experienced aquarellist as he knows that the paper will dry flat when the picture is finished. For important work in the studio it is usual to strain the



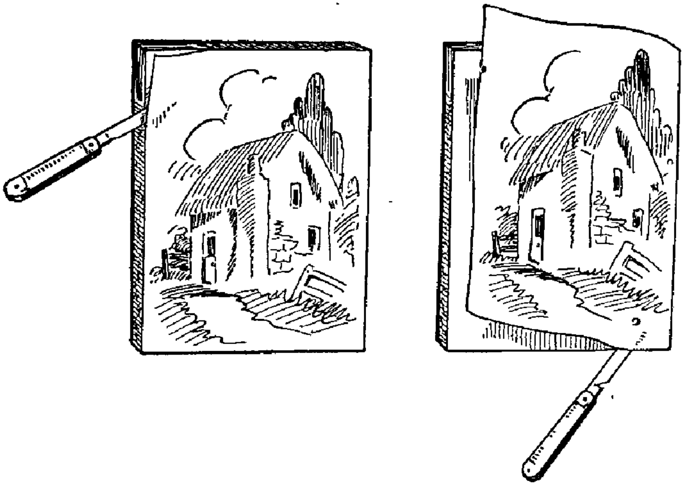
FRAME AND BOARD FOR STRAINING A SHEET OF DRAWING PAPER.

paper on a board. This is making it adhere along its edges by strong paste, or glue. Before it is pasted, or glued, it is moistened all over excepting

on the edges, so that the sticky stuff holds better. In drying, the paper becomes taut and flat; that is, strained. The board, it is to be remembered, must be kept level and not set on the floor on an edge as then the moisture would run down and cause wrinkles in the paper surface. A useful contrivance for straining paper is a board around which a frame fits by rabbet-joints on the four sides. The moistened paper is laid on this board and the frame pressed down over it to bring the rabbet-joints together with the margins of the paper between the edges of the joints. This itself holds the paper sufficiently firm but an additional security is obtained by some pins in the board fitting into tiny depressions of the frame.

Solid sketching-blocks are the most convenient ways in which paper material comes for the sketcher. These, somewhat like the scribbling tablets of the stationer's shops, are composed of a number of sheets of paper held together by glue along their edges. In a sketching-block a small section is kept free from glue so that after a painting has been made on the top sheet a knife blade may be inserted under it and made to run

around all four sides. This frees it from the sketching-block and exposes another blank sheet ready to be worked upon. An ordinary leaf of a scribbling-tablet may be torn off, but a little care



SKETCHING-BLOCK AND HOW A FINISHED SKETCH IS REMOVED WITH A PENKNIFE.

must be exercised with a sketching-tablet. The usual number of sheets of paper on one of these blocks is twenty-four and the sizes of the paper are as little as 5 by 7 inches and as large as 14 by 20 inches. The very smallest are for the quickly made impressions of effects—sunsets for instance—that last but a few minutes. The sizes most frequently

utilized for sketching are 9 by 12 inches, and 10 by 14 inches.

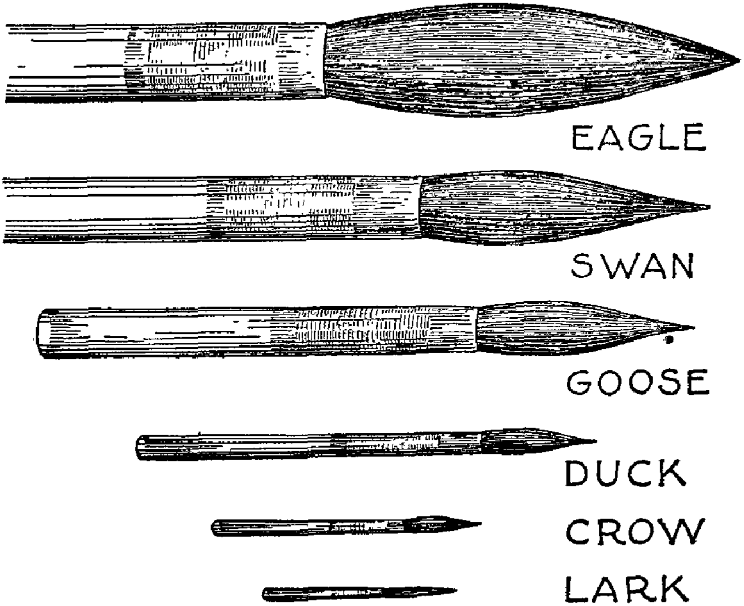
A surface that may be employed when the sketch is to be in a broad manner with spacious patterns of color is mat-board. This is the heavy cardboard of which the mats are made to surround pictures when they are framed. It has a coarse grained surface that imparts life to a wash drawing made on it. The coarse surface softens the color that has been put in by the vigorous brush strokes of certain broad manners of working. This surface also takes charcoal easily. Rough charcoal strokes go well with this broad manner of working. The charcoal, a stick of it, of course, is used to mark out the drawing in a few light strokes but without smudging them in any way. Some slight indications of shadows are permitted. When the colors are painted on, a little of the charcoal dust mixes with the washes to give a soft textural quality that is pleasing. After the color work is finished a few accentuations with the charcoal stick give an added emphasis to the picture. For another style of working black crayons are used in this same manner as with the charcoal.

Brushes, generally, for water-color painting are of soft hairs (in oil work, they are of stiff bristles). Working in the watery solutions for wash drawings requires such soft-haired brushes of which the typical ones are of camel's hair, although it may be that many of the brushes coming under this designation are really made from the hairs of the tail of a Siberian squirrel. The most frequently used tools, however, for general work in water-color are red sable brushes. These work as smoothly as the camel's hair kind, but they have a certain better quality of resiliency. A water-color brush of an ideal shape has a clump of hairs in a long tapering form coming to a point that appears to consist of a single hair. This is a shape that a good brush, through its springy resilience, is supposed to come to of itself after it has been dipped into water and given a shake, or two, to rid it of some of the water. Shops that are accustomed to supply artists with material keep a cup of water at hand to try brushes this way before they are purchased. It is understood that the fingers are not used to bring the brush to this typical shape, but that it comes to this pointed

form of itself, as stated. A brush very soon, however, wears to a dull point, because of the rough paper and some gritty pigmentary material. An old brush may even have, after a time, a form with no point at all and show only a blunt rounded end. Some artists prefer brushes like this, just the same, to dash in the vigorous strokes for some of the conspicuous foreground details.

Water-color brushes roughly may be grouped as of three kinds: for general use, in quills; for general use, in metal ferrules; and in various forms of large size for washes and skies. The quill brushes are classified respecting size, in a quaint way. It is according to the kind of bird that furnishes the feathers of which the quills are shaped. For instance, beginning with the smallest: lark, crow, duck, goose, swan, and eagle. There are besides some intermediate sizes of which the following illustrate this droll precision: extra swan, small swan, middle swan, and extra large swan. The brushes for the generality of uses are in round clumps in metal ferrules. They are graded by numbers: No. 1 (or in some makes, No. O) for the smallest with the succeeding numbers of

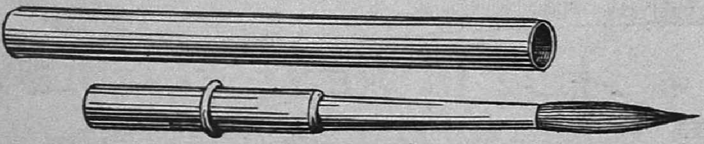
the usual makes for the larger ones up to a No. 12. Although the larger sizes of these brushes are for washing in tints, the brushes specifically applied



WATER-COLOR BRUSHES IN QUILLS.
The sizes are approximately exact.

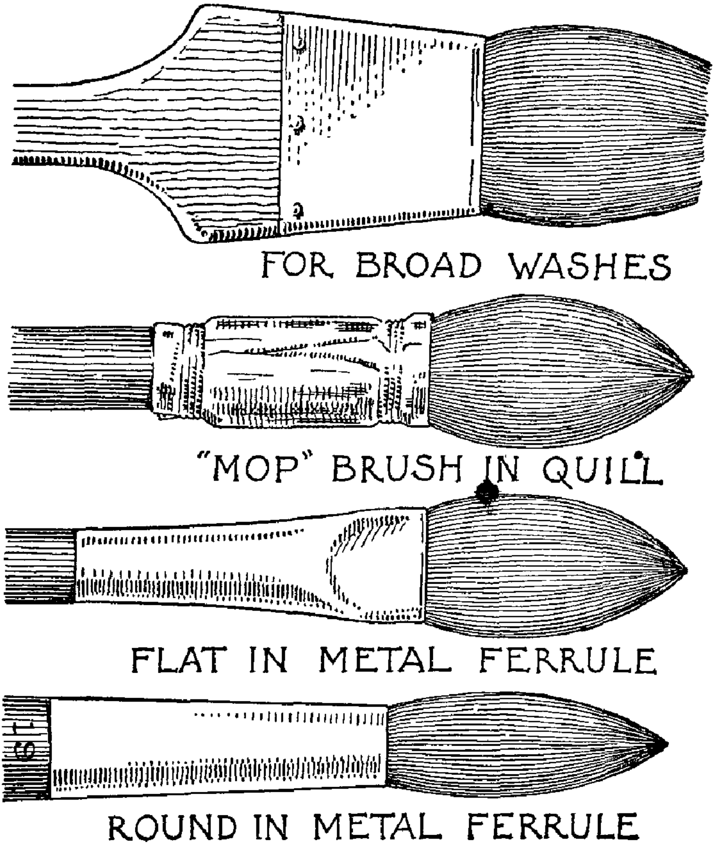
for this purpose are those of our third group; the wash, or sky brushes. These have as additional designations the terms, dabbers and mop brushes.

For some special manners of working and technics, hog's hair brushes—oil brushes, really—are brought into use. Needless to say, they should be free of grease and never have been used with oil, or dipped into anything else but water. Ordinarily, the typical elongated and pointed brush is adaptable to all uses in water-color; but sometimes an artist prefers other forms. For this demand then the brushmaker supplies a rather elongated brush for certain kinds of linear strokes, a brush with an abruptly cut-off end for bold distinctive touches, or a tool in a flat ferrule instead of the usual round one. Then he makes for the tiny touches of the miniaturist short stubby pointed brushes.



A POCKET WATER-COLOR BRUSH.

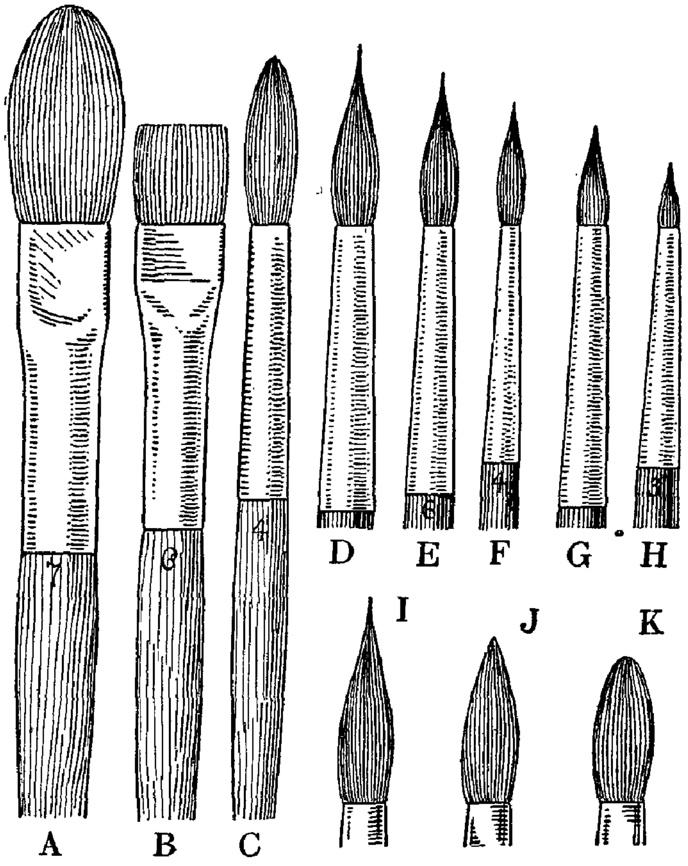
Another painting tool is the pocket brush of two sections, one the brush proper and the other a tube to fit over the hairs when not in use and to protect them and to lengthen, in its other use, the



WASH OR SKY BRUSHES.

handle of the brush. This is the brush an artist takes along when he carries a pocket sketching box and a small sketch-block to make color impressions of fleeting effects, or striking bits of color.

Brushes will last a long time if they are cleaned immediately after any work is finished or at the end of any period in which a painting under way is left for a while. When a brush is allowed to dry with paint in its clump of hairs, it will not come back again to its proper shape. The paint causes the hairs, even though they retain their resiliency, to be all straggly. The opaque white paint, when it is left to dry in brushes, is especially injurious to them. A good brush, furthermore, should never be dipped into black ink as it will ruin the brush in time. The practical thing to do is to reserve some of the oldest brushes for this purpose and as well, try to have special brushes for the white pigments. When a brush, wet with moist paint, is left on the table and gets knocked out of shape and is then allowed to dry, it is difficult to bring it back again to its proper shape. It cannot be helped, to be sure, if brushes get twisted out of shape when they are packed away in a sketching-box, or carrying-case.

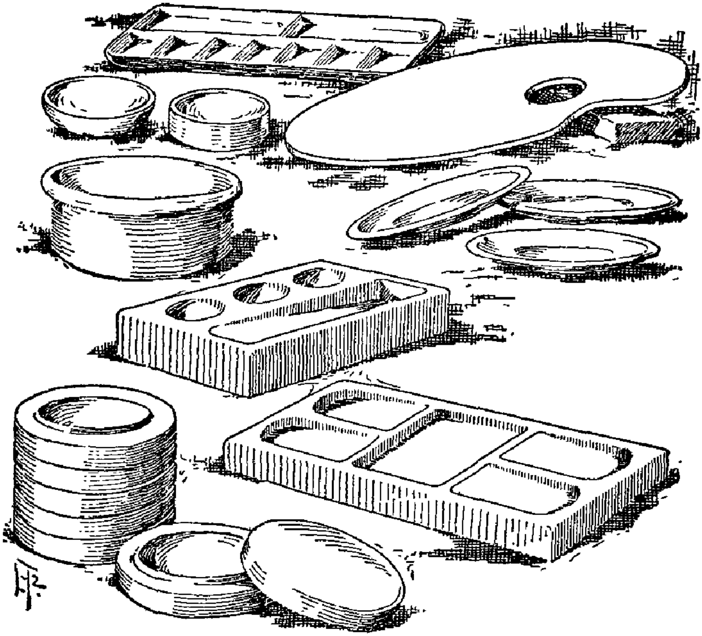


WATER-COLOR BRUSHES.

A, B, and *C.* Bristle brushes that may be used for water-color.
D, E, and *F.* Usual forms of red sable brushes for general work.
G and *H.* Brushes for miniature painting.
I. Ideal form of a water-color brush.
J. Form to which a brush eventually wears.
K. Blunt-end brush as preferred by some artists.

But the matter may be remedied by removing them from these receptacles immediately after returning from a sketching trip, re-wetting them and training them, with a rag held between the fingers, to their correct shapes. As the hair of most water-color brushes is food for the moth kind, valuable ones, when they are put away for any length of time in a closed box, should have a piece of camphor enclosed with them.

Small pieces of chinaware of special forms are needed by the water-color artist when working indoors. Of these articles there should be a plentiful supply of tiny saucers and cups for mixing and holding the tints for the washes. Serviceable ones are the architect's cabinet saucers that come in sets, or nests, of six with a cover for the top one. In default of these, other forms are available of which some are the little articles of crockery known as butter plates about 3½ inches in diameter. These little plates are sometimes called butter-chips. The china tiles with rows of wells, divisions and sloping partitions, are generally employed in drafting and designing work, in which fields of endeavor simple tints are used for painting on the



CHINA PALETTE, A NEST OF TINTING SAUCERS, AND SEVERAL OTHER KINDS OF CHINAWARE FOR MIXING COLORS.

drawings. It is intended in these tiles that the wells or divisions, in rows or series, should hold the several tints of a gradated series from a light one to a very dark one.

Stick India ink is "rubbed up" to change it, with the aid of water, into liquid ink on the sloping

bottoms of the large partitions of these china tiles. A much better way, however, is to employ a slant of slate which, with its gritty surface, makes the rubbing of the stick of ink more successful. China palettes, the whiteness of which makes the character of the tints and color mixtures very clear, are used by artists who do small delicate work. The whiteness of chinaware, a desirable feature, as it makes the colors and tints clear, is not the only motive for selecting the articles by the artist. It is because there is no danger, on account of the character of the material, of spoiling the colors. For this reason, again, a most excellent vessel for holding the water to work with is a large china bowl. Such a thing as a tin cup to hold water for water-color painting is absolutely interdicted as the rusting action of the water and metal will be strong enough to impair the purity of many colors. There is no objection, however, to an aluminum cup. Some of these are made with little triangular depressions on the rim into the angles of which the artist may work his brush to free it of too much water, or bring the clump of hairs to a point. Some artists keep blotting paper on their

table to do this—rid the brush of surplus water, or shape the brush with a point. But this is not a good idea as a certain amount of fuzzy stuff from the soft fibre of this paper gets into the brush. In small work, where the brush is to be kept pointed, this is an objection. Scraps of paper, or pieces of cardboard, should be chosen for this. These are tacked, with a drawing-pin, to the side of the board and thrown away when much messed up with the trial strokes. It is the habit of some artists to bring the brush to a point by working it against the surface of the margins of the same paper on which their sketch is. There are two objections to this: an inadvertent movement of the hand, or arm, might smudge the wet strokes and run a streak of color over the sketch; and, the collection of meaningless messy color marks on the margin distractingly prevents a proper judging of the work. We do, to be sure, stop now and then and look at our picturing. Anything else but clean margins interferes with a correct appraisement.

CHAPTER VIII

DETAILS OF MAKING WASH DRAWINGS

THE special and distinctive (brush) technic of transparent water-color is washing in a tint or shade of color. Of course, the brush is handled in various other ways, too. The brush may be given certain irregular movements that scumble the pigment about; delicately managed to mark spots and lines; or boldly manipulated to give individualistic touches of strong color. But all these manœuvres are, more or less, easy of management, whereas washing in a tint is a procedure requiring great skill and one that, of all things in technics, must be acquired by any one aspiring to work in water-color. It is difficult sometimes for those who have worked a great deal with a point-tool—a pen, for instance—to lay in a wash of color. They have been so accustomed to procuring their effects by a succession of tiny strokes that they cannot think broadly enough to lay in a flat tint with one sweep of the brush. Instead of press-

ing the entire clump of hairs against the paper, or using the brush to lead a pool of color over the surface, they try to get an effect by finical touches with the brush point. If there is any tendency on the part of the student to work that way, it must be overcome and the ability acquired of covering an area of considerable size with a broad wash of color.

As it is especially for a sky of a blue tone that this skill is made use of, we will describe the making of such a pictorial detail. Now the surface of the paper which has been tacked to a drawing board is moistened all over. This is performed with a soft sponge, or a clean white rag. For important work paper is, as was mentioned in the preceding chapter, pasted to the board in the usual method employed by architects and designers. But for practice in washing in tints it answers the purpose to tack it. If it is found that the paper, after it was moistened, has formed large wrinkles, it is a simple matter to change the tacks—move them out farther—or to another place of the paper's margins.

In a small saucer, or in whatever vessel is used

for mixing, prepare a pale tint of cobalt. In another saucer have some clean water. This is supplementary to the regular supply. Whenever it is possible, even when working outdoors, it is a good idea to have two containers to hold water; one reserved for cleaning the brush and the other for color mixing and diluting the tints. In the meantime the moistened paper has probably come to the right condition to work on. This is one neither moist nor dry, perhaps we can say at a stage just between them but rather nearer the dry condition than the moist one. Care must be taken not to start too soon while the paper is moist, as then the color will run or form blotches. If this should happen the matter can be remedied at once by sponging off whatever color has been put on and moistening the paper again.

Now as the actual business of washing in a color; laying down a tint; or for still another expression, "floating" in a tint, we take a large brush—No. 12, perhaps—and fill it with the pale cobalt from the saucer in which we prepared it. With this brush we run a band of color across the top of the paper to the right and then run a band

across to the left. This widens the first band of color. It is then made wider still by continuing the movement from side to side and downward. We can see that this action is nothing more than leading a pool of color over the surface of the paper with the brush managed very gently and no hard pressure of the clump of hairs against the surface. It is part of the business of learning to float in a wash to become skilful in working with a delicate touch, so that, in any actual work an underlying tint is not disturbed by another wash over it. While this washing in of the cobalt tint goes on, if the brush is in need of more color, it is recharged from the tint in the saucer. Whenever the brush is dipped into this tint it should be moved about so as to stir up the color, as its material—the pigmentary particles—settle to the bottom and cause the tint to be uneven. The most finely ground colors show particles of their special coloring matter and their watery tints need to be agitated from time to time to keep them of a uniform tone. However, this stirring of water-color tints is a gesture of technic that becomes automatic and one performed without any conscious mental effort. The

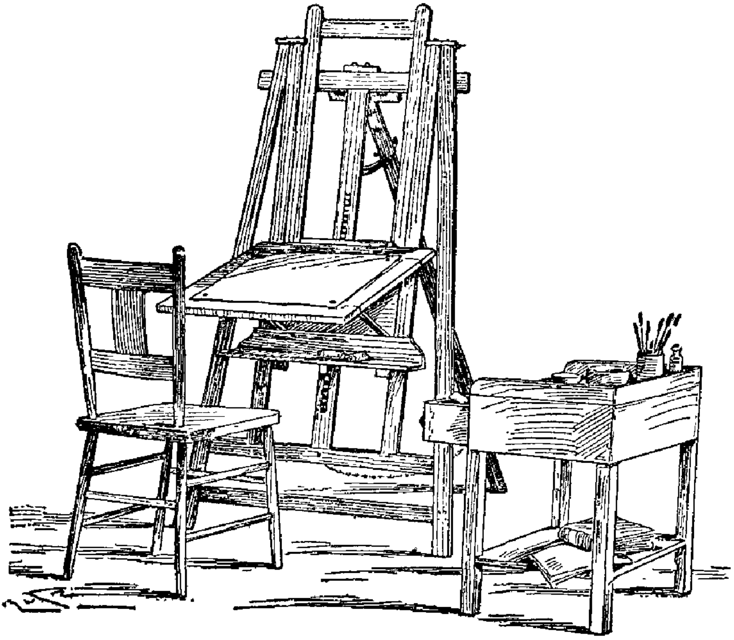
board holding the paper is put into whatever slant helps the flow of the pool of color. If the color flows too fast, it is moved toward levelness, and if it goes too slowly, it is changed back to any slant that makes it flow faster.

As a typical blue sky becomes less blue as it reaches the horizon, the tint needs to be weaker, that is, lighter in tone. This is done by adding a little more water as the wash is carried lower. Here is where the water in the extra saucer, that was suggested to be held ready, comes into use. The brush is dipped into this, from time to time, to take up always a little more water to add to the cobalt tint. An almost automatic judgment is brought into play here in taking up just the right amount each time.

The change of the sky color as it approaches the horizon is not always of one color, that is blue, but sometimes changes to another color. We will presume that it is pink and then prepare a tint of rose madder. Just as we changed the blue tint, mentioned above, by proportionate increases of water, so now we change it by similar increases of rose madder. But to prevent a pale purplish tinge from

appearing we also keep on adding some clean water to the cobalt tint.

We now consider a second method of making a gradation of sky washes from one color (generally blue) to another near the horizon. This second method is to wash the tints separately one over the other but waiting for the first to dry. The second wash quite frequently corrects any unevenness that may have been present in the first one. And another thing is that the two colors (blue and rose, or blue and yellow) will not be so likely to give their usual results (purple, or green) when mixed. This is where the dexterity of the delicate brush touch applies in going about it so gently that the color of the first wash does not "wash up." A procedure in this connection that is sometimes followed is to turn the board upside down for the second tint and start with the weakest possible tint of rose, or yellow, which ever one it is, and increase its strength as the wash continues. We are, in working this way, painting our color downwards from the horizon to the zenith, the direct opposite of the regular way from the zenith to the horizon. It isn't always possible for an artist to



STUDIO EASEL WITH ADJUSTABLE BOARD FOR WATER-COLOR WORK AND A TABLE FOR HOLDING MATERIAL.

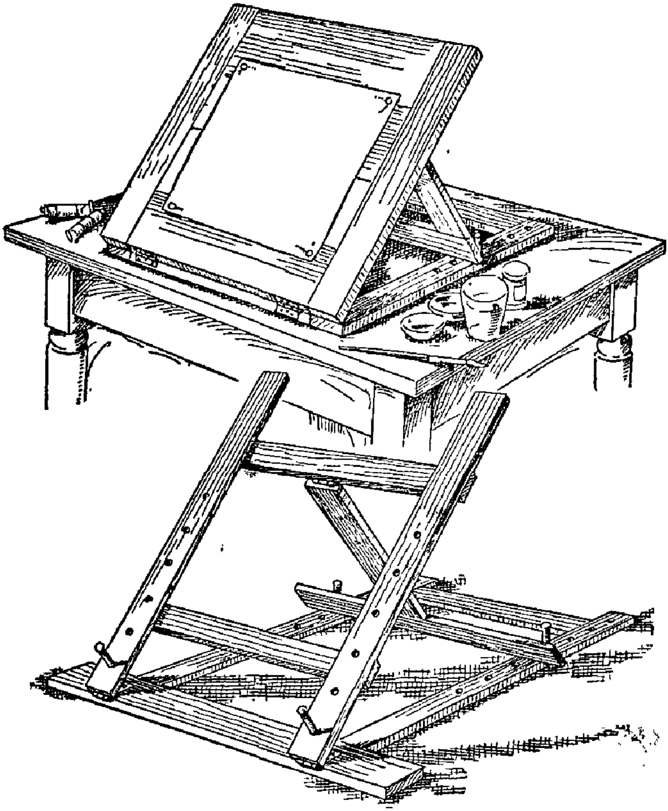
paint this way of having the sketch turned around or placed upside down, as it is frequently tacked to a board, or fixed to an easel of some kind.

A few of the usual pieces of furniture of a room, a chair, and a table with a drawing board, may ordinarily be sufficient for water-color painting. But it is better to have the regular articles, one of which is an easel with a desk-like slant at-

tached to it that may be changed with reference to its obliquity. Two very convenient pieces of studio equipment are a table-easel and a tilting board. The table-easel is built similarly to a regular easel only of a squat-like form. It rests on a table instead of on the floor. The tilt-board contrivance is an ordinary drawing board hinged by one edge to a rectangular frame that rests on a table-top. Part of its construction is a prop hinged to the back of the board which, as it is moved, determines the slant of the board. The prop is held in place by movable pegs that fit in certain of two rows of holes bored in the frame construction that rests on the table-top.

In this practice to attain skill and proficiency in making a uniform wash it doesn't matter much what kind of paper is used. It will be found, however, that it is more difficult on smooth paper than on the rough surfaced. Any little blotch on smooth paper usually dries with a hard edge while on rough paper the granular surface has a tendency to soften edges of color patches.

Naturally it is not in every picture that an absolutely uniform sky tint is wanted. That is just as



Above: TILT BOARD FOR DRAWING AND WATER-COLOR PAINTING.
Below: TABLE EASEL.

well, because when painting outdoors away from the conveniencies of the studio variable effects will come out and white spaces will be left in a tint. Sometimes the water supply runs out and that held

in the little cup of water hooked to the sketch box soon becomes tinged with an indefinite tint that modifies everything against our will. Occasionally the modification from this tinged water improves a color but, as a rule, it is destructive to brilliancy.

To have a plentiful supply of blotting paper is advisable for water-color work. Blotters are used not so much to rest the hand when painting some small detail in a picture that is nearly finished, as to help in removing a tint that is not wanted or to lighten a patch of color that is too dark. A tint is removed, if it is only light in tone, by wetting it with a sponge in deft touches and then taking up the water, and with it some of tint, with a blotter in the usual way a blotter is used. When a dark spot of color is to be lightened the procedure is the same, only it is repeated a number of times. In some cases a coarse bristle brush is employed to rub over the spot, when it is moist, as if trying to dig the pigment particles out of the paper's fibre.

One of the uses of a blotter is to help in taking out places in a blue sky to suggest white clouds. The way to do this is to wipe over the spaces with a moistened clean white rag and soak up the color,

or moisture, with the blotter. A good quality of paper will stand a lot of this sponging with water, or wiping with a rag, if the pressure is not too hard while the paper is wet and pulpy. Sometimes such places are also wiped out for painting gray, or other colored clouds, over them. The sand rubber, or ink eraser, rubbed over tints when the paper is dry is another means of making tints lighter in tone. A scrap of sandpaper may also be used for this purpose. When there are only a few clouds of large size and of full forms, the azure sky is painted around blank spaces of pure white paper to represent these clouds. Hard edges of the blue tint against the white of the paper are softened while the tints are wet or when the shadow sides of the clouds are painted. Water-colors have a certain superiority over oil paints in rendering clouds. The material itself, the watery colors, so easily flow to form themselves into cloud masses that it seems to require but little skill in brush manipulation to form them. And then the edges of tints are easily softened to give the proper quality.

On good paper if not very thin, white spots in dark areas of color may be scraped out with

the steel ink eraser. Such places ordinarily are smoothed with a sand rubber afterwards. Scratching out highlights with this metal ink eraser is a technical detail of frequent application. This instrument is also employed for softening hard edges in waves of waterscapes, or scraping out lines for reflections in water and indicating spume and spray in surf scenes. But every effort is made in pure water-color to avoid these tricks and get white spots for such effects in the first place by leaving the paper blank. This is not difficult for large spaces but it is not easy to manage for small spots, or thin lines.

Advantage should always be taken of any white spots left accidentally. They usually help the effect and they can always be painted over if not wanted. In the rendering of architectural subjects white lines are often left purposely between two adjacent tints of different tones, or colors. By this means the colors, or tints, will not run together and mix, or make blotchy spots. A certain textural quality, proper to architectural details, is obtained by this treatment of washes.

Our reference to brush work in this chapter

has had to do mainly with flat washes. That is, leading a pool of some color over a surface to obtain a uniform tint or with some slight blending of its tone. Now in some lines of work there are more noticeable changes than mere blendings, and to illustrate respecting these particulars, the next chapter will have, among other matters, suggestions for washing in tints and shades for the varying shadings in round objects.

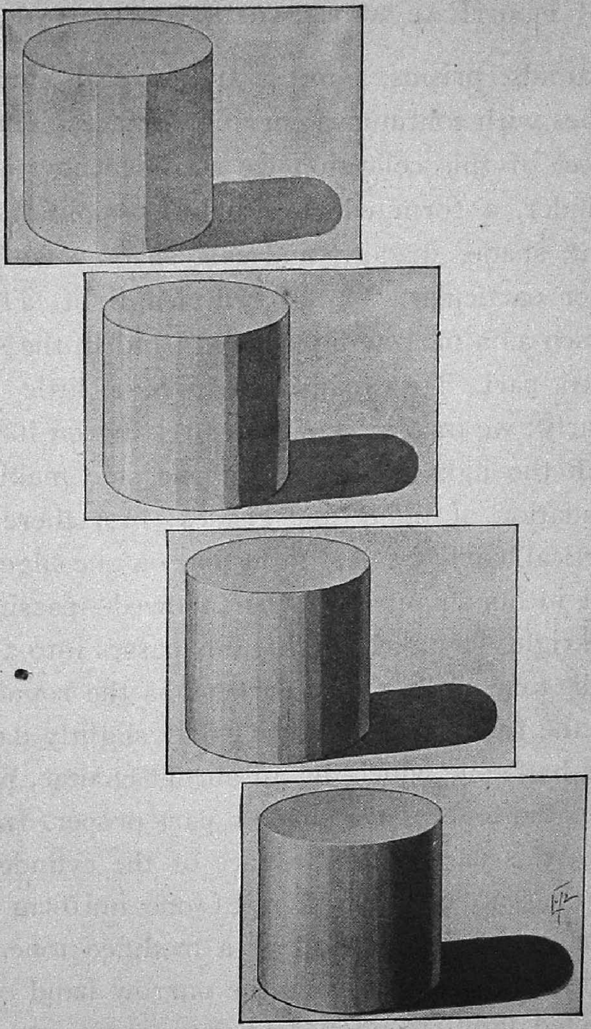
CHAPTER IX

LIGHT, SHADE, AND SHADOWS IN WASH DRAWINGS

THE most striking effects in water-colors are those of vivid contrasts of chiaroscuro showing oppositions with sharply defined shades and clearly marked brilliancies. In such pictures any lack of knowledge on the part of the artist as to how the play of light forms these shadows, shades, and areas of brilliancies, is betrayed in the work. The average landscape of foreground, fields, and distant planes may be painted with slight deviations from the rules of light and shade rendering as the vagueness of the forms of the components do not give discrepancies away. But in scenes made up of buildings only, or any in which they form a part, it is a different matter. Then the correctness of the shades and shadows is of prime importance.

Much may be learned about shadows, shades, and the distribution of light by making studies from geometrical drawing-models. These are "solid" elementary forms—cubes, cylinders, cones,

pyramids, prisms, plinths, and several kinds of bodies with continuous curving surfaces. The one object of this collection we consider now is the cylinder, a form which clearly exemplifies high light, shade, shadow, and cast shadow with another particular, that of reflected light. This is shown as a narrow light-toned band in the shadowed part. To explain ourselves a little more clearly: we imagine a cylinder resting on its base with the light coming from one side making a gradation of lights and shades; first there is a vertical band of a very light tone on one edge (the left in our example) to be followed—passing to the right—by a high light; this passes into a very light tone again which darkens as the roundness of the form turns, this part only slightly dark is the half-tone which, by an abrupt change, passes into the tone of the shadow part proper. In theory, this part of the surface of the cylinder receiving no light at all is of one uniform dark shade, but it is instead of a modified tone. The principal modification is the narrow band of reflected light, mentioned above, over toward the very edge (the right in our example).



GENERAL IDEA OF THE PROGRESSIVE STEPS TAKEN IN MAKING A WASH DRAWING IN BLENDED TONES.

CONNEMARA PUBLIC LIBRARY

Studies in sepia, or in other monotone pigments, of drawing models singly, or in groups, besides serving as objects to give effects in shades and shadows, afford, in their execution, practice for the hand in floating in washes and in the case of round objects, making smooth blended tints and shades. With respect to the latter particular we now touch upon another branch of the technic of making water-color washes.

To explain this we shall endeavor to make clear the series of steps taken to make a wash drawing of a cylinder. It is the cylinder we had before us when things were explained about light effects on round surfaces. The manner of painting for this may be in lampblack, or sepia if the artist finds its brown tones pleasing. We will presume that the object has been carefully drawn in outline with a pencil and the paper moistened. After the paper has dried to the right condition to work on, the first wash is a light tint painted over everything excepting that part receiving the full play of the light. Next a little darker wash is made over such part as the effect on the objects calls for. Now a rather dark tint is washed over the part in com-

plete shade and where the shadow falls on the ground. The work is now carried on in successive stages of darker and darker washes. The engraving on page 127, in which we have tried to show the manner of painting these washes, gives only three of the progressive stages, with a fourth picture which represents the finished work. As unexpected things happen in wash drawings, and differently for different people, it is not possible to give the exact appearances of the numerous stages of making a water-color painting. The engraving is meant to give an idea only of the manner of making the progressive series of washes to render a subject with a round surface such as this cylinder.

The special skill required in this work is to mingle a dark shade with an adjacent light one so that instead of a hard edge where they meet, a soft blending of their tones is made. As a general procedure, this is done by washing in a tint, quickly freeing the brush of its color, and then running it along the edge of the wet tint to absorb the color there. If this were not done the edge would dry with a hard line. Some artists have an extra brush

at hand which they keep dry just for this purpose of softening the edges of wet tints. This may be the right way for some classes of work but it is much better to work with one brush. The paint rag—used to free the brush of water or to clean it —is always held in the left hand while wash drawings are made. Another detail about this work is judging the exact degree of near-dryness to lay in a second wash. If the paper on which a tint has just been washed is perfectly dry there is an unsympathetic response when a second tint is made. If the paper is wet, blotches of irregular shape appear in the most unexpected places. And these blotches get worse if any attempt is made to fix them while the tints are moist. It is better to allow them to dry and see what can be done then, or leave them as incidental variations.

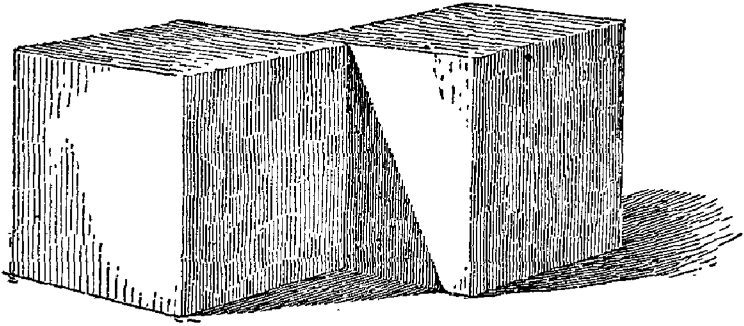
Although the usual method for making gradated shadings for effects of roundnesses is to start with a light tint and apply the darker ones as they are needed, it may be right for some conditions to start from a heavy shade and work toward the lighter ones. Then another way would be, in the case of a round object, to make nearly

all the shadings except the faintest tint. This is put in last in one sweep over the entire effect, hoping by deft brush manipulation to have it soften the underlying shadings.

The mechanical air-brush would make a picture of this cylinder in perfectly smooth tints and shades quicker and with more ease than by a simple brush held in the hand. But the question is—do we want such a picture with all lack of character by its absolute perfection? A wash drawing made with a brush is of much more artistic interest on account of the touches and strokes of individual character. Several artists making one certain subject, every one with an air-brush, would produce pictures all alike. But if several brush artists pictured this subject their works would differ. That is what we want in art.

A particular of light and shade that no one can fail to observe is that a cast shadow adjacent to a surface in shadow is darker than this adjacent surface. If now we place two cubes so that a right-angled niche is formed between them and the light made to throw the greater part of this niche in shadow, we have a condition that illus-

trates this very clearly. The surface of one cube is completely in shadow, the obscurity that covers it is its shade, as it is proper to it as an effect. The other cube has the surface it presents to the



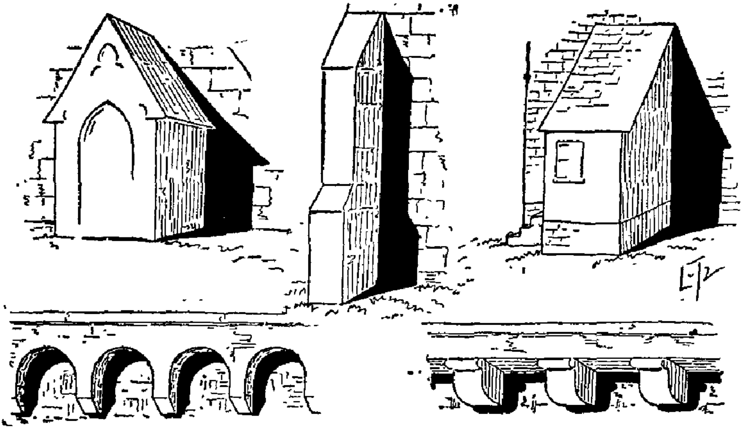
TWO CUBES ARRANGED TO ILLUSTRATE CAST SHADOWS AND A REFLECTED LIGHT.

eye partly illuminated and partly shaded which, triangular in shape, is spoken of as a cast shadow. It is an incidental effect not thought of as belonging to it as it is caused, incidentally, by the shadow of another object. There is also a cast shadow on the ground upon which the cubes rest. Now these three effects bordering one another—the surface in shadow, the cast shadow on the other surface, and the cast shadow on the ground—are theoreti-

cally all of a uniform obscurity as they are all deprived of the same amount of light. But the reflected light from surrounding objects has broken up this uniformity of shade. The chief cause of this is the illuminated part of the surface of the cube upon which the cast shadow falls. Proof of this is quickly demonstrated if a piece of dull-surfaced black paper is held over the illuminated part of the cube. When this is done the reflected light on the surface in shade disappears and all becomes uniformly dark.

Effects of reflected light, very strong when the sun shines, are observed in groups of buildings when they—the buildings—are set one to the other to form recesses, or have extension and L-shaped wings. Then these effects show in miscellaneous details of buildings: bay windows, oriels, balconies, buttresses, lean-to additions to buildings, and entrance porches to churches. In the smaller architectural features it shows between brackets and under eaves, under the cornices of the entablature of a classical structure, between the corbels supporting the projecting part of a parapet, and in niches of walls. In minute particu-

lars, reflected lights show among the intricacies of carvings, reliefs, and mouldings. A good rule to remember in any case of two adjoining surfaces, one with a cast shadow and the other showing a



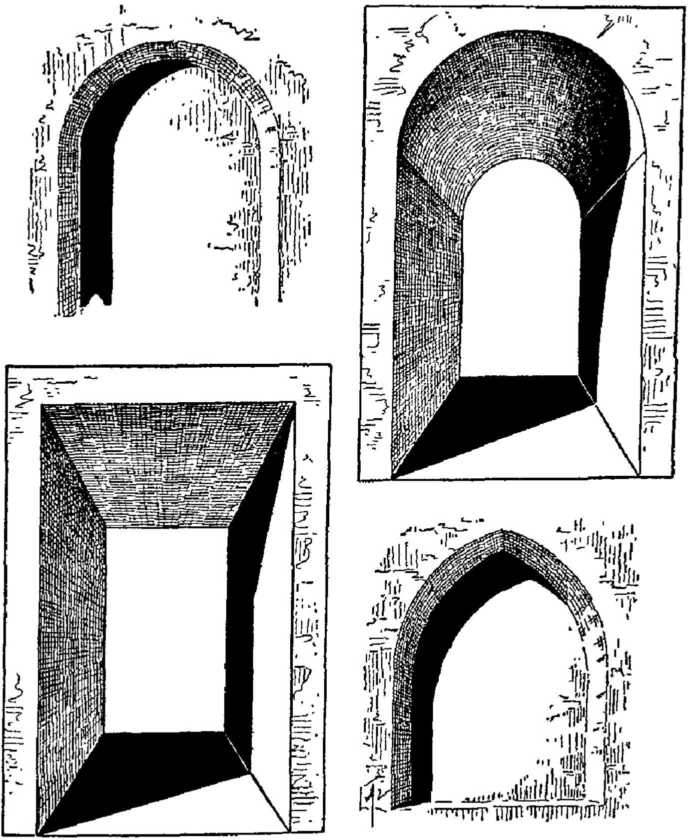
A FEW ARCHITECTURAL DETAILS THAT BRING OUT THE PECULIARITIES OF CAST SHADOWS AND REFLECTED LIGHTS.

reflected light, is that the cast shadow is always darker.

An entrance hall and a vaulted corridor into which the sun shines obliquely furnish good examples of these particulars of light and shade. The cast shadows, in any one of these examples on the floor and that of one wall, are densely dark, while the ceiling and other wall show lighter shad-

ows because they receive reflected lights from other surfaces. An especially interesting effect is that of the cast shadow on a wall of the vaulted corridor. As the sun streams into the front of the corridor it projects the edge of the semi-circular vault to the wall, where it gives the cast shadow a curved margin.

Cast shadows falling on curved surfaces take on surprisingly odd shapes. They should be examined and studied closely. A shadow falling on the rounded surface of an upright cylinder, coming from the edge of a circular object on its top projecting like a cornice, has a margin with a curve slanting downwards. This kind of a shadow varies according to the way the light falls and the position of the observer. These shadows are most frequently observed on round towers with conical spires and with projecting circular eaves. A cone and a cylinder—a round tower and its spire—selected from a collection of drawing models could be used to demonstrate the peculiarities of this shadow effect. If an artificial portable illuminant is used and moved from side to side, or raised and lowered in position, it will give numerous and



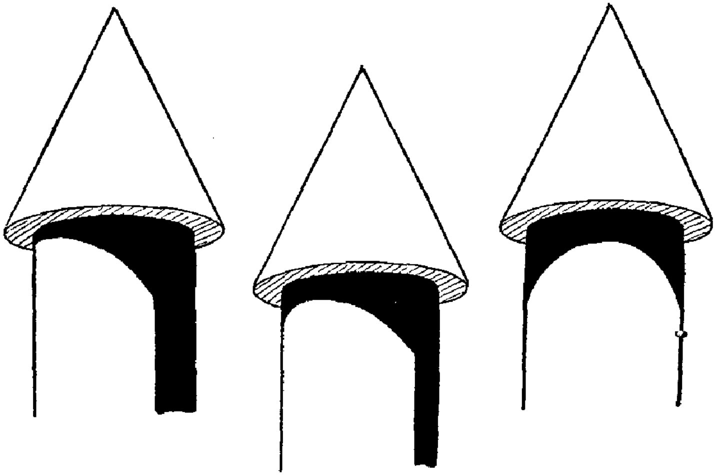
SHADOW AND REFLECTED LIGHT EFFECTS IN CORRIDORS AND RECESSES.

varied effects. A point about shadows on curving surfaces is that they are significant indicators of form accessory to the usual light and shade ef-

fect. A shadow of this order that brings out the roundness of a curving surface is that cast by a stick leaning against an upstanding cylinder. This shadow, with its curving borders falling over the surface of the cylinder, is as significant of roundness as is the ordinary light and shade. Still another interesting shadow that reveals the nature of a form is that from a vertical object—a post in our example—that falls over the surface of a cylinder lying horizontally on the ground. (For this and other examples, see engraving on page 141.)

These incidental, or cast, shadows bring out form in other particulars. When a post throws a shadow over a series of steps the step-character is brought out very forcibly. Minor details on some broad surface have their character revealed when a shadow falls over them. A box, for instance, with batons, has a stick leaning against it and the light throws a cast shadow over the side where the batons are. This shadow goes in a zigzag manner across the side of the box. Similarly the broken surface of the gable end of a house that is covered with clapboards receives the

shadow of the edge of the sloping roof in a zigzag fashion. There is really a rhythmic movement in these shadows: the one from the post on the



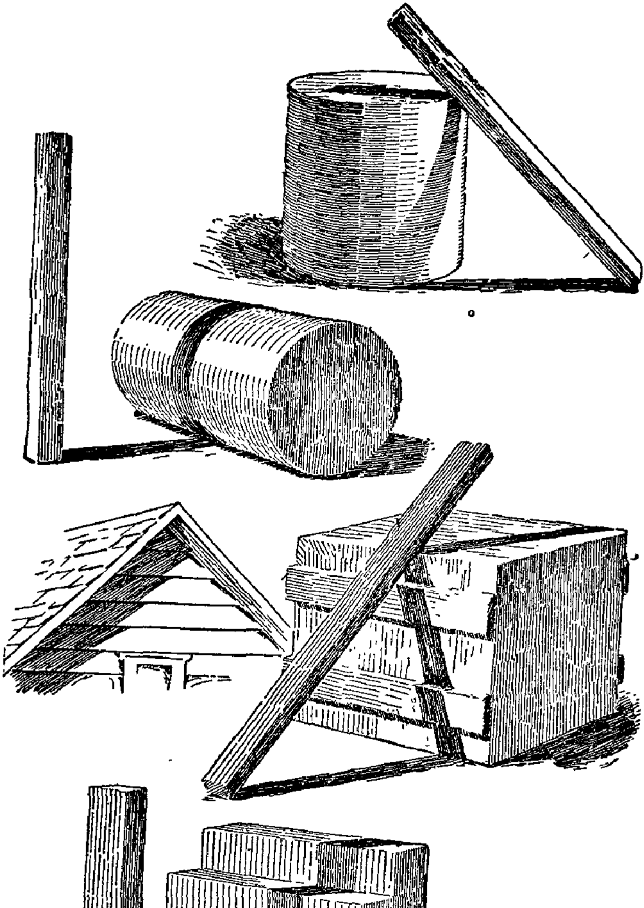
CHARACTER OF SHADOWS ON ROUND TOWERS.

steps goes like a measured tread upward, and the zigzag shadow of the clapboard wall goes in and out as if keeping time.

At first it seems puzzling that chimneys should throw such strange shadow shapes on the sloping roofs on which they are built. But there is nothing perplexing when we essay to draw them as the

shadows are distinct in character and with sharply defined borders. The shape of a shadow cast by the bulk of a dormer window set on a slanting roof assumes a curious form. Such shadows vary greatly, too, according to the way the light falls. The shadows under the projecting eaves of roofs likewise vary in shapes that change as the light changes. Artists should notice, incidentally, how long shadows are in the winter time.

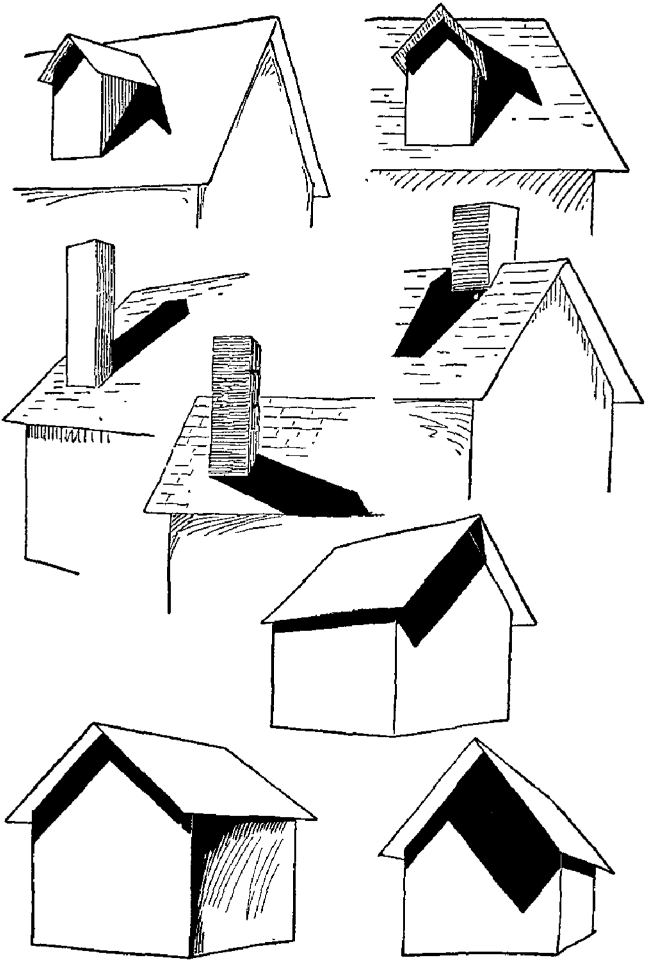
Shadows, not only in the larger effects but in the smaller details, have a considerable share in giving that special attractiveness of picturesque scenes. Characteristically picturesque are the works of the early English water-color school. These include drawings and reproductions, as well as paintings. The particular works that interest us most are the pictures of the English artists of the last quarter of the eighteenth century and the first half of the nineteenth century. Of first mention we note Samuel Prout (1783–1852), because of the value to students of his technic and manner of rendering, and again, because reproductions of his works are frequently available in libraries. As pertinent to our subject now we focus our atten-



HOW INCIDENTAL SHADOWS BRING OUT FORMS.

tion on his manner of rendering architectural details to bring them out by shadows. Then we will notice how shadows play their part in the effectiveness of casual and incidental components; boxes, barrels, poles, sticks, barrows, carts, broken-down fences, piles of stones, and other things scattered about scenes with their shadows of some kind accentuating them, or helping the compositional plan by their form or direction. Some of the subjects which Prout, as well as other landscapists of his period, was particularly happy in the rendering, are rural scenes, square-towered old churches amidst appropriate surroundings of trees and herbage, thatched cottages, farm buildings, village streets, and rustic bridges.

Besides the published pictures of Prout the pictures of many other artists of his time have been preserved in book form. As these pictures were made before the universality of photography there is an unaffected interpretation showing no other influence than that of individual feeling. The representations have not the peculiar "snapshot" quality of the camera but are really creative. We do not usually credit imitative depiction and



SHADOW SHAPES OF DORMERS, CHIMNEYS, AND EAVES.

graphic drawing as having any idea of creative art in its pictorial results. Nevertheless, it is true of drawings made before the days of photography. To copy a picture from an old print, or out of an old book of the works of one of the early English landscapists, would be an extremely good study in light and shade rendering. As these works, prints, and books are valued and treasured as rareties of pictorial art, it is not practical to copy directly from them on account of the likelihood of splashing color or water over them. It is not possible, as we all know by experience, to work in water-color without spattering water somewhere when we give a brush those occasional vigorous shakes necessary to free it of water. Then there is sure to be some splashing when we dip a brush into a water cup or there is even the misadventure to fear of the cup upsetting. To provide against all these mishaps, we simply procure photographic copies (photostatic prints) of any picture we wish to copy in a museum or an art library.

CHAPTER X

SOME PARTICULARS OF WATER-COLOR SKETCHING

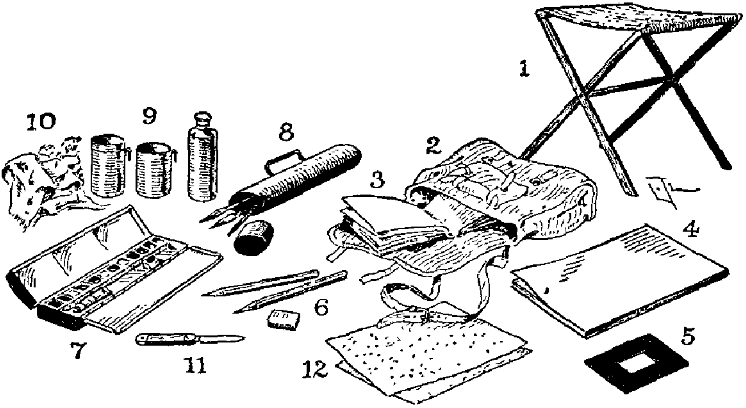
WHEN we work indoors on water-color paintings or wash drawings, there is a certain degree of comfort in the way we are able to arrange the chair, table, board, or easel, as well as find places to dispose of the various extra things we use. It is different when working outdoors, as then we must put up with some vexatious inconveniences. In some respects water-color is a simple procedure and yet we do need to take a lot of things with us when we go sketching. The minimum of things, material, and articles of equipment that a water-colorist takes along with him on a sketching trip are as follows: folding seat, kit-bag, sketch block, sketch book, picture finder, pencils and eraser, sketch box with twelve half pans of colors, a small tube of white, brushes and carrying-case, water bottle and cup, rags, penknife and blotting paper. It will do no harm to take a book along.

Studying art needs to be tempered by an occasional exercising of the mind with other than art thoughts.

But it is possible to do something with an equipment on a reduced scale, such as the following: a small sketch block fitting the coat pocket, small water bottle and cup, pocket brush, tiny sketching box—waistcoat pocket size—with six colors only. The ideal six colors would be the fundamental primaries and secondaries, but as the pigments representing them do not combine in every case to give the clear hues we should have, others must be selected. Two lists of such colors follow:

Selected list	*Substitute list*
French blue	New blue
Alizarin crimson	Crimson lake
Vermilion	Venetian red
Pale cadmium	Pale chrome yellow
Burnt sienna	Burnt sienna
Indigo	Indigo

The colors on the right are substituted colors of low price for those of the selected list. With these



THE MINIMUM OF THINGS REQUIRED FOR WATER-COLOR SKETCHING.

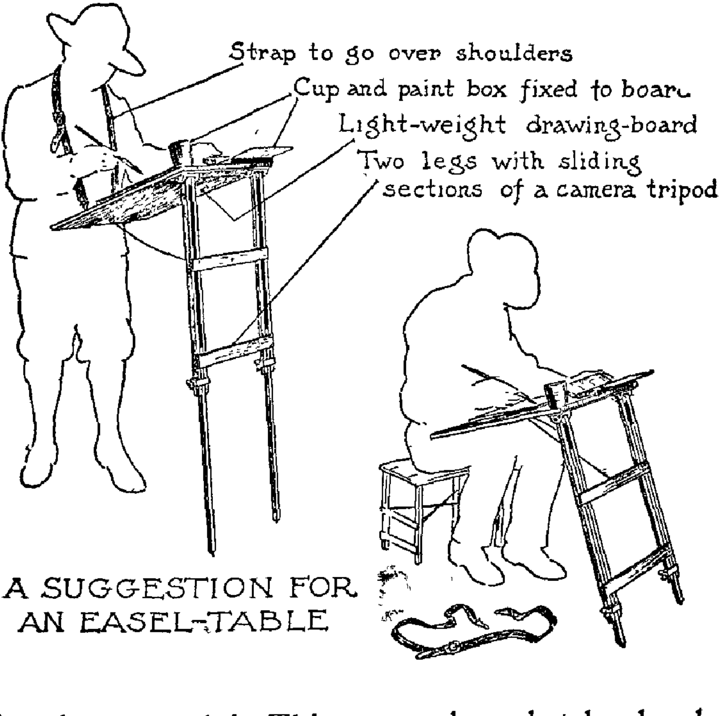
See text on page 145.

six colors, of both lists, quite good effects are produced and sketches dashed off in a few minutes, of a sunset; a picturesque spot; an interesting foreground; or a detail with a striking note of color. For this kind of subject, to be made in a few minutes, an artist usually stands while working. It is a very awkward way to paint in water-color, but it can be managed. There is an advantage in standing when working in crowded places as people cannot easily look over an artist's shoulders. To work while seated in such a locality, where all the good architectural subjects are, of course, the

sketcher is not only in the way but he will find that few passers-by can resist the urge to stop a moment, or longer—alas—to look at the work. Naturally, the experienced and thoroughly seasoned artist becomes accustomed to this but he feels much happier, just the same, when these annoyances do not take place. Some contrivance of a board that could be swung from the shoulders by a strap would be desirable for sketching while standing. Or if this arrangement were improved by attaching two legs, taken from a camera tripod, it would be still better. We would have then in this a sort of easel-table, room to fix the water cup and color box so that one hand is free to handle the brush and the other to move the sketch block around as the washes are painted on it.

Ordinarily the only piece of furniture carried for outdoor water-color sketching is a folding chair. Seated on this chair, it is then a simple matter to rest the sketch block on the lap and hold the sketch box in the left hand by the rings fixed underneath it. Sometimes the tiny water cup hooked to the box spills some of its contents because it is so hard to remember, when the work demands all

our thoughts, to keep it level. If this happens too often the only recourse is to place the cup on the ground on the right side where the hand with the



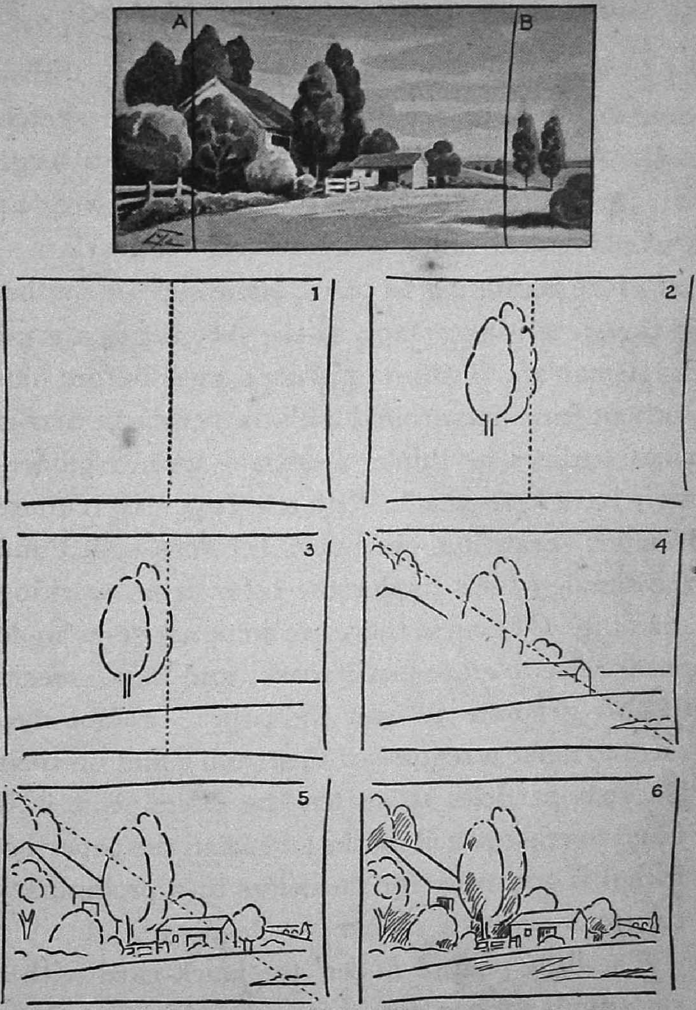
A SUGGESTION FOR AN EASEL-TABLE

brush can reach it. This may make a sketcher bend over a little more than usual with a bending of the spine not likely to find approval by the hygienist who pays especial attention to the right and wrong way of body postures. Any way, a sketcher is very

apt to lean over like this to have the body throw some shade over the white paper of the sketch block. A large straw hat, or any kind of a large hat, for that matter, might be the kind to wear as it would cast an ample shadow over the work.

Before beginning to paint, some sort of outline of the scene is necessary. If the sketcher is a good draftsman and is able to picture a view before him without fumbling around with the pencil, he marks what outlines he thinks necessary with a moderately hard lead pencil. With a soft pencil, if there is much scrawling, the paper becomes soiled and the smudgy lines hinder the color from working smoothly. Of course there are some artists who do not trouble to erase pencil marks and leave smears of soft graphite all over the paper. In fact they seem to make a feature of them and count on their blackish particles to soften the effect. But it is usual to erase pencil marks and clean the paper before it is got ready for the colors by a preliminary moistening with a sponge, or clean rag.

The little picture finder, the black card with a rectangular space cut in it, and which has been noticed in other books of the author, is brought



THE SERIES OF PROGRESSIVE STAGES OF MAKING A PENCIL OUTLINE FOR A WATER-COLOR PAINTING.

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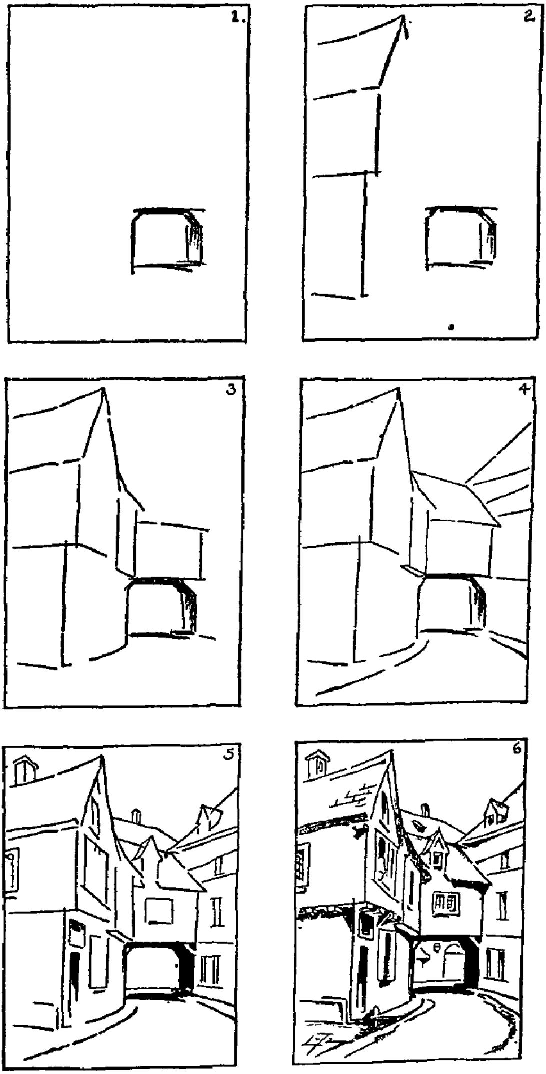
into use to see how much of a view composes as a picture. Next, of most concern is picking out the right detail of a view to mark first on the paper. Perhaps it is some bush or tree, of significant form, just off from a middle line. Nearly always the first detail we mark in a sketch is judged, as to its position, with reference to a central point. We decide as we begin a sketch in pencil on certain limits to the right and left and then note a central point between them. Now with these two limiting points and the central one, all three imaginary, but strongly held in the mind, we find the position of some large detail (see engraving on page 151). It is a large tree a little to the left of the middle. So as to give us another point, or line, to judge the positions of other details we find the height of the horizon. If the nature of the terrain —mountains, or rolling hills—hides the actual horizon, some prominent horizontal, or nearly horizontal, line is selected. It could be the line of a road or a fence, that defining a distant lake shore, or the wavy one of a range of mountains. Now with these particulars correctly placed, especially that of the prominent detail, the work is continued

by drawing the other details; their relative positions and sizes always referred back to the points, or details, already established. It is merely as in so many forms of human activity where a selective judgment is exercised, getting the big things right and allowing the small details to fall into their places.

An additional help in the early stages of making a sketch is to observe how the details group themselves in masses, form into patterns, or to see if the leading lines conform to some compositional plan. Another observation that should be made is to see if there is any rhythmic repetition of like forms. It is on all these things—masses, patterns, lines, and rhythmic qualities that the structure of a picture is built and understanding them makes the drawing easier.

When sketching an architectural subject a similar method is followed. Only as a subject of this kind always shows a structure built of perspective lines more care is needed in the presentation. We shall endeavor now to give briefly the order of the pencil strokes for sketching a simple architectural subject. It is the view of a narrow



THE SERIES OF PROGRESSIVE STEPS IN OUTLINING A SIMPLE ARCHITECTURAL SUBJECT.

street extending a little way to a passageway under an arch of a middle-distance building. The first thing that attracts us is this arch with its heavy shadows, and the brilliantly lighted wall of a building we see through its opening. The arch is such a conspicuous detail that we cannot help noticing and marking it at once. Its position is judged by estimating how much it is to this side or that, or how low a place it occupies within the imaginary rectangle we have decided upon as the limits of our picture. After the arch has been sketched, the front line of the corner of the near building to the left is drawn. As its line is broken on account of the nature of the structure, its marking is not as easy as when drawing a simple cube, or box. However, the work in the first stages is carried on with the idea kept in mind that houses are simply cubes, or boxes, and that broken lines, or details are, for the time being, non-existent. The trend of the perspective lines needs next to be closely observed. This is not always easy in old buildings with their saggy stories, façades that lean, and rickety frames in general.

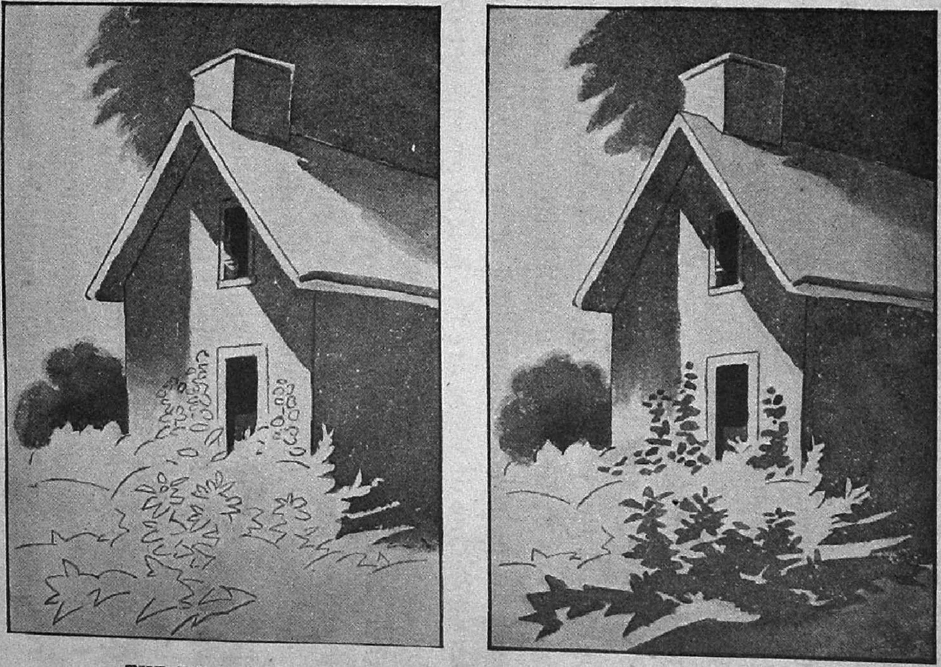
Precisely how much detailing is done in any pre-

liminary work for a water-color painting depends upon the artist's method, skill and, above all, his confidence in his draftsmanship. For instance, in the case of the architectural bit we have now before us, the experienced artist carries the pencil work only so far as to mark simple rectangular spaces for the windows and depends upon his skill to paint the remaining items—frames, sashes, and divers effects on the shiny glass—with the brush. It is similarly the case with ornamental features in buildings; a draftsman familiar with the styles of ornaments does not need to feel timid if he has left out the intricacies of such details in the pencilling. His brush-point obeys his mind, we can say, almost instinctively in rendering these features.

We shall now give general instructions on how to go about making a water-color sketch of a simple subject. First we must know what we are about and be systematic even though we may be led to believe these considerations are not necessary because we notice a seeming ignoring of them by some native genius in art. Systematic procedures and a series of correctly executed steps are re-

quired for most of us and it is only by working in these ways that we can accomplish anything.

We see a certain outdoor subject that pleases us. It is a stone cottage set among leafy masses and thick foreground herbage. There is rather a lot of shade. Of particular notice is the sharp contrast of sunlight and shadow on the front of the structure. Perhaps it is this feature with its ochery tone of light and the purple-gray shadow that really attracted us at first. And it still holds our attention even though we begin to find other details of interest. Some of these are the bright greens set off by the deeper-toned ones, both of which are further brought out by the contrast of the dense green of the larger masses. We presume that before starting to lay on the color the pencil work has been made and the paper moistened with water. When the paper is at that particular right stage for working, which is that just on the verge of becoming perfectly dry, the shadow on the front and side of the house is made with a tint of rose madder and indigo. Next the background foliage mass is painted with a wash of yellow ochre and French blue. A purplish gray tint is



THE FIRST TWO STAGES OF MAKING A WATER-COLOR SKETCH.

next washed over the shadow side of the chimney and run down in a weaker tone over part of the roof. The first of the four pictures to illustrate our theme on page 159 shows the extent of the work as it has been so far carried. The first of the minor details to receive our attention are the openings of window and doorway which are painted a rather strong gray-purple of a mixture of French blue and light red. It doesn't matter if this color is not right in the first wash as it can always be darkened. A tint of gray made with cobalt and light red is now painted over the roof and this tint, with a little more cobalt in it, is washed over the immediate foreground foliage. While this last tint is still a trifle moist a dark green color of viridian and French blue is blended with it in part. A little attention is given to the definition of the leaf-forms in the foreground foliage while this last dark green wash is painted.

It is time at this stage of our work to give a general wash of pale cadmium over the sunny part of the front of the house. This wash is continued downward to be lost, as it is made paler with more water, in the foreground. The painting should now

have been carried as far as to bring us to the consideration of the work illustrated in the third of the series of progressive steps in the engraving on the opposite page.

This will be mainly to attend to the details. Some of this work is to paint the herbage with cadmium and viridian in modified tones but allowing touches of French blue, or burnt sienna, to appear here and there in pure color to give vividness to the effect. But when these colors, by accident or intention, mingle with any of the green tints that are still moist, an appropriate modification of tone will result.

The glare on the sunlit part of the house precludes any sharp definition of the stones of which the wall is composed. The palest tint of vermilion and yellow ochre is the color to use here to give whatever detailing seems to be required. The colors used for the stones on the shadowed part of the structure should never be so strong as to destroy the unity of the shadows. But a great deal of variation is permitted here as so many factors give diversity of colors in a detail like this. Sometimes a touch of cadmium, brown madder, and burnt

CONTINUING THE MAKING OF A WATER-COLOR SKETCH AND THE COMPLETED PICTURE.

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sienna deftly worked about, as they are combined with the general shadow color, interprets this diversity. The aim is to procure variety but withal keep to the unity of tone. Similarly when the shingles are detailed the unity of light that spreads over the roof must not be lost. Details like shingles must be suggested rather than marked in a graphic manner.

The larger and darker foliage of the background is given its proper depth of shade by viridian and burnt sienna. Occasionally a dash of French blue in the mixtures made with these colors diversifies the effect. A thin tint of yellow ochre and viridian is the appropriate color for the lighter area of the background foliage. A spot of cobalt here and there to represent the sky is mingled with this tint. The picturing of tree-forms in this sketch has been a simple rendering of a few vague foliage masses. Painting tree-forms, as such, is a much more complicated affair and one requiring something of a special technic. Of this, among other particulars, we shall endeavor to give suggestions in the next chapter.

CHAPTER XI

SOME SPECIAL METHODS IN TECHNIC

A FEW ways of handling the brush, managing pigments, and rendering certain details not previously considered are to be taken up now. As the picturing of trees in water-color usually requires certain special brush technics and managements of the color, we will take up the painting of these pictorial details first. There are all manners and styles in which trees are represented in water-colors. One is almost calligraphic. A tree in some visual aspects does seem to call for some sort of line work: its leaves of definite outline, the network of twigs, and the intricacies of branches all show line characteristics making pens, and finely pointed brushes, the proper interpretive tools. Of course, there is directly opposed to this the broad manner of rendering trees in patterns of light and shade. But there are more than these two ways of picturing trees. In fact, the diversification of

styles in which trees are painted in water-color is endless.

It is hardly possible to make an absolutely perfect imitative painting of a tree. Neither is it possible to apply a formula to make even an approximate imitation, or find a recipe by which these natural details are pictured in any style, in all cases. If a recipe were practicable then the adherents of any special school should turn out work that looks alike. The group of Preraphaelites, for instance, tried to interpret reality with an absolute depiction of fact and yet the pictures of its individual members all differed. The highly detailed natural forms of foliage, grass, and flowers of one artist could never be mistaken for the foliage, grass, and flowers—likewise highly detailed—of another artist. Personality in the works of the members of this school always brought out variations of tone, diversity of colors, and a differing degree of precision. The individual bias in these particulars was, in any one artist, much stronger than the endeavor to hold to the principle of his school of an absolute realizing of fact on a pictorial surface. All that he got, and all that any

artist could get, was a relative appearance of truth of fact. And that is all that is desirable in pictorial art, anyway.

All special manners of picturing of trees, in whatever style rendered, are worthy of our attention and study. The one indispensable quality is that they give this appearance of truth. A pen drawing of a tree with a few washes of varying tints could look real, and even a mere calligraphic sketch, with a little staining of colored inks, could likewise look real. Whimsical drawings of tree-forms as they are sometimes made in illustrations for children's stories are often just as real as the most faithful transcript from nature. The weird forms of bole and fantastic branches of the trees in some of Doré's drawings for Dante's Inferno are not such unreal imaginings when we recall the contortions and twistings that nature has given to trees in certain wind and storm exposed situations.

The characteristics of the various ways of painting trees in water-color are easily discerned by classifying the various ways. This, again, makes it possible to review them for purposes of study and enable the student to adopt a manner of

rendering suitable for his work. Not every one is gifted enough to invent a style of his own as we know, and many of us must look for help in the works of the masters.

Suitable for our purpose, the manners of rendering trees in water-colors can be placed under the following heads:

I. Realistic.
II. Decorative.
III. Fantastic.

There is an occasional case of some unusual kind of tree picturing, difficult to place under one of these three heads. But in general the classification is a convenient one. The first group (I) contains a great variety of kinds of rendering but all exhibit some degree of realism. We note the principal varieties as follows:

1. Interpretive.—A strikingly individualistic manner of depiction.
2. Imitative.—In which the drawing of natural

DECORATIVE TREE RENDERING COPIED FROM A PICTURE
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forms is a sincere idealization of fact, rather than a display of technical adroitness.

3. Impressionistic.—A manner in which the light and air that envelop forms, as well as vivid color, are considered of more importance than the visual facts of (tree) form.

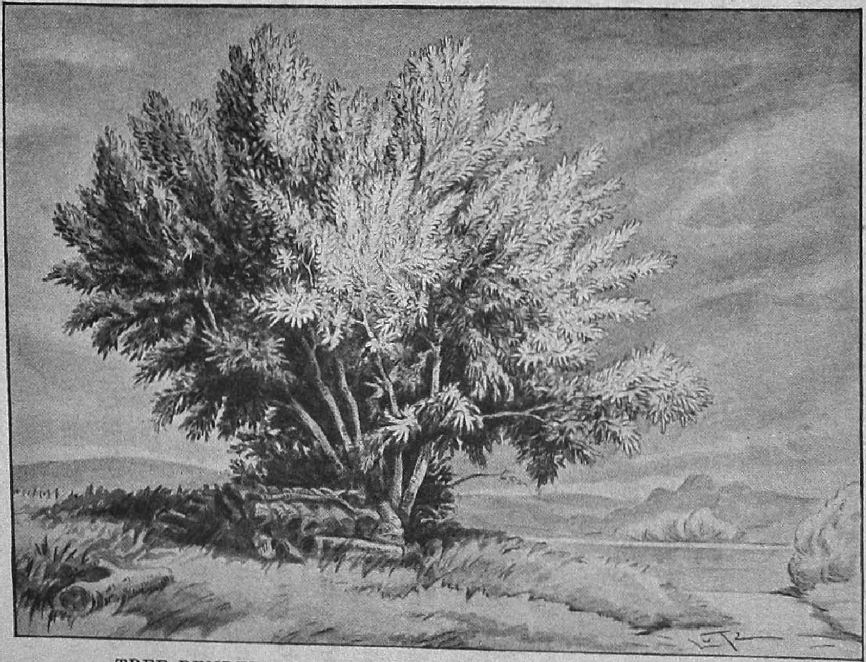
4. Tonal.—In this style a tree is pictured in relation to some special condition of the atmosphere.

5. Pattern effects.—A manner in which the foliage clusters are painted in broad masses of light and shade.

6. Graphic (or even botanical).—Here an emphasis of leaf-forms is the way rather than indicating the foliage in a broad manner.

7. Calligraphic.—A way of rendering characterized by lines and with, more or less, simple tints.

The brush with the interpretive and imitative styles is managed in the usual ways for water-color, but in the impressionistic manner it would be handled to give certain finical touches of pigment, or boldly, to dash in brilliant spots of color. Trees painted in delicate tonal effects that blend one with another or in soft melting outlines look as if they were painted on paper purposely kept wet. This is, by the way, the method in some technics and a help in carrying it out is to keep a water-soaked blotter underneath the paper as a picture is painted. In every way different is the manner of washing contrasted masses of lights and shades from that of detailing tree minutæ in the graphic manner. A typical instance of this latter style is a picture of a thatched cottage with its surroundings of vines, shrubs, and flowering garden plants depicted in an almost botanical exactness. Even tree picturing by calligraphic methods could be realistic. Some of these drawings are truly interpretive by the way the line work represents foliage character. A special stroke is given for any particular kind of leaf: finger-like strokes for palmated leaves; serrated scribbling for pin-



TREE RENDERING IN A MODIFIED CALLIGRAPHIC MANNER.

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nated leaves; angular markings for pointed leaves; scrawling lines for irregularly shaped ones; a maze of scalloped twistings for roundish leaves; and wavy bendings for soft-edged leaves.

Though a pen is generally used for this calligraphic technic, a finely pointed brush may be employed. The brush is held with the handle at a right angle to the paper while its point just touches the surface as the strokes are made. Either tinted ink is used or a thin ink made from a paint with water.

Trees drawn in the decorative style, the next group (II), often show a great deal of line work, too. But the style is characterized mainly by precise outlines of the foliage clusters, simplified leaf forms, and conventionalized shapes of details in general. There may be subtlety of color, or tone, but not of forms. Emphasis is the distinguishing trait of the forms. Examples are found in poster designs, some modern wood-engravings and in linoleum-block prints. The way trees are drawn in some of the formal landscapes of wall paper and on objects of art supplies us with more good examples. Trees in the artificial landscapes of tapes-

try, by influence of method of manufacture, are peculiarly decorative. They make excellent copies for painting trees in this style for the conventionalized landscapes on screens, panels, and overmantel spaces.

An artist picturing a tree in any of the fantastic manners (III) may not imitate nature, but it is generally expected that the work look real enough to convey the impression that it could be a natural form. But some fantastic tree drawings are so unreal that their proper appreciation is possible only by forsaking, for the moment, our usual normal attitude toward things. That is, it seems as though we must put ourselves into a mood in keeping with the fantastic quality of these pictures. Ordinary folk in just the ordinary mood have no difficulty in understanding naturalistic tree pictures. But it is another matter when trees are drawn in capricious forms, in grotesque shapes, or twisted into fanciful positions.

The intelligible presentation of details in any of the decorative styles, and in the definite, though odd forms of fantastic picturing, clearly shows how these details were made. But in the greater number

of manners of naturalistic depiction method is not so obvious and some explanation is necessary.

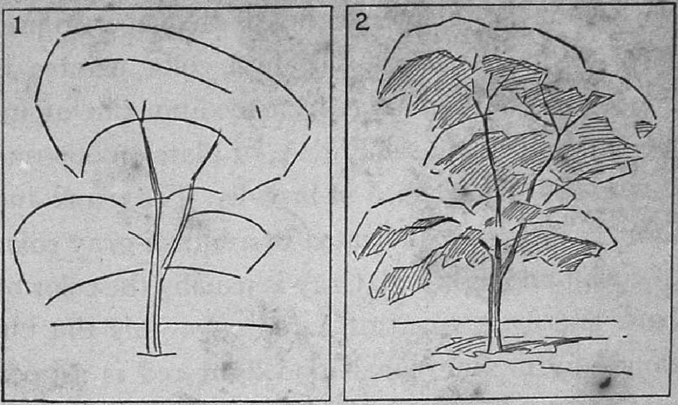
We shall now give specific instructions, as well as we are able, for making a water-color sketch of a tree.

In making our first observation of a tree with the idea of painting it a helpful procedure is to imagine it as one flat mass made up of patterns of light, half-light, shade, and shadow. It will help still further if we can imagine this flat mass projected forward on to a huge transparent plane before us. Then we can draw this with the ease with which we make a drawing from a flat copy.

We need first, before we begin to paint the picture of the tree, some sort of a simple pencil outline. We begin then to mark out its general bulk and indicate the positions and lines of the trunk and large branches. Next the principal foliage masses are indicated roughly. As it is difficult to judge relative proportions by mere outlines, the heaviest shadows are indicated by rapidly made sketchy strokes of the pencil (see plate on page 181). Any graphite smudginess of the pencil marks will be lessened in the next stage of our

work; namely, the moistening of the paper to prepare it for the colors. The first color painted is that of the darker areas in a medium tint of indigo and viridian (see Fig. A, of plate on opposite page). This is washed in broadly. The trunk and branches are now indicated in a bluish-gray color of cobalt and light red. Gray is usually the color of bark and even when of a red color this tint obtained by mixing cobalt and light red is a good wash to paint first. In the next stage, the foliage masses in full light are given a wash of lemon yellow, or this color modified with a little yellow ochre. The endeavor when washing in this tint is to keep its borders from mingling with the edges of the dark tint that was painted first. Of course, it doesn't matter if the two tints mingle here and there, but by keeping them separate as much as possible a number of white spaces are left. These are useful afterwards to add effective touches of cobalt, or whatever blue tone is proper for the sky in any particular picture.

We do not consider the painting of the sky in these suggestions for picturing a tree in water-color because how to go about this particular



MAKING THE PENCIL OUTLINES FOR THE WATER-COLOR SKETCH OF A TREE.

THE FIRST BRUSH STROKES IN MAKING A WATER-COLOR SKETCH OF A TREE AND THE COMPLETED PICTURE.

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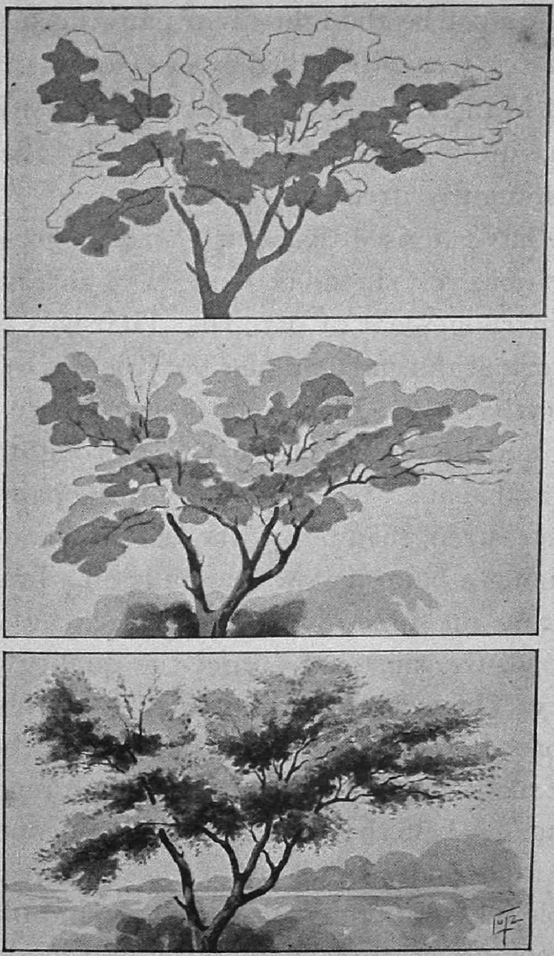
varies according to the character of the tree. In any picture of a tree of a compact mass it is usual to paint the sky first. In any tree with scattered bunches of foliage and many openings in the tree mass through which the sky is seen, it is the most practical way to paint the sky—a cobalt tint, very likely—at about the third stage of the series of washes made. Then advantage is taken of the accidental white spaces that were left when the green tones of the first and second stages were painted. It is in these spaces that the touches of blue of the sky are painted.

Now is the time to begin to consider the variations in the darker depths of the tree mass—perhaps the greens need to be modified by burnt sienna, or darkened with French blue. Or touches of these colors in nearly full strength are painted here and there in the shadowy depths of the tree. Strokes of brown madder now, sometimes with a little French blue, are given to the parts of the branches in the shadowed parts. Brown madder itself gives a deep rich "bark" color which by contrast of its hue brings out the green of the foliage. Contrast in color as well as contrast in other par-

ticulars must be thought of in painting a tree. A sketch of a tree with a medley of color of gray and brown branches, and of yellow and green foliage, is more interesting than one nearly all foliage and predominantly green.

We have advised that our tree, as it presents itself to our eyes, should be thought of as a flat mass in an arrangement of patterns. That was to make the work at the start simpler but it is not to be forgotten that it has, like solid objects, three dimensions and its details are in relief brought out by light and shade. As we go on with the painting by further strengthening of the darker shades, emphasizing a blue shadow that falls on a branch, or breaking up some monotonous green by varying its tone, we must not forget the quality of simplicity. There is always the likelihood of spoiling the broad effects—that looked so good when they were made in the first stages—by too much "finishing." A help that will keep us from committing this fault and remind us of the effectiveness of simple masses is to compare reality and our work by looking at them both with half-closed eyes. Things looked at this way lose their distinctness



HALF-CLOSING THE EYES MASSES DETAILS SO THAT THE WORK MAY BE SIMPLIFIED IN BROAD EFFECTS.

and show only general effects. Some one not familiar, perhaps, with art methods may think a painter is squinting when he is judging this way.

An interesting anecdote in this connection is the following: Thomas Eakins, when he was painting the portrait of a celebrated surgeon in a clinic in which the students seated on the benches of the amphitheatre formed the background, had the individual students come to his studio to pose as he painted them in the picture. One student, who noticed Mr. Eakins half-closing his eyes to judge the effects in the painting and to simplify the lights and shades in the model—this student, who was posing then, thought that he—Mr. Eakins—had an affection of the eyes and advised that an oculist should be consulted for the trouble.

Trees vary in visual aspect from season to season. In the winter the deciduous trees show only skeletons of trunk and branches, and in the summer, when they have reached their perfection of coloring, they are of a dense uniform green. The summer time had best be given to painting trees where they group themselves in broad effects as part of landscape views, while in the spring and

autumn single tree studies may be made. In both of these latter seasons, of early growth and decay, characteristics of form and color show. These particulars not only make the work more interesting, but the results more pleasing.

The ordinary way to paint in water-color is to prepare tints in saucers or in the concavities of the color box and apply them in washes to the paper. But frequently tints are mixed on the surface of the paper. Generally it is for effects where a varied tone is desired rather than a uniform color. We find examples of such effects on old walls and the surfaces of crumbling and dilapidated structures. Under some conditions the effect of an old stucco wall in sunlight could be rendered by a wash of cadmium and light red painted separately on the paper and then mingled by the brush. This mingling is only partly made so that here and there a little spot will be pure yellow and another red. Other pictorial details in which this brush and color technic is practised are clouds, especially rough weather clouds (indigo and light red); fields (yellow ochre and viridian); and earth roads (yellow ochre and burnt sienna).

It is in shadows that this running of colors together on the paper comes out well. In an old brick wall we paint a patch of light red and one of French blue and combine them, not, however, mixing them thoroughly as a certain unevenness is wanted to suggest the appearance of a crumbling wall. Venetian red is another color that may be used with the blue pigments to mess about, if we may use this term, on the paper to procure diversity of textural effects. A point to be remembered about this technic is that if too many paints are mixed this way muddy colors will come out and the shadows will have a murky tone. A pleasing quality in shadows is transparency. In such shadows we are aware of the uniformity of color—blue, purple, or gray—and yet recognize the varied colors proper to the different details over which any of these shadow colors play.

Waterside details in pictures—planks and piles of wharves; the woodwork around sluice-gates, piers of bridges and walls that are immersed or come to the water's brink—exhibit many-colored effects. These colors, vivid, rich or deep-toned, with the reflections in the water afford oppor-

tunity to exercise skill in brush handling and management of pigment. The practice of mixing the colors on the paper is sometimes applied here, too. But as a rule the typical method is to allow the color to flow as if it were the aqueous liquid itself, or lead it gently with the point of the brush to form the zigzag patterns so frequently observed on the surface of a body of water.

It is the aim sometimes of an artist to have splotchy daubs, or blotchy effects, in certain details of his water-colors. They are purposely made and not left to accident to bring them about. The usual way to produce them is to allow two very watery colors to intermix of themselves without any stirring about with the brush. Whether a mixed color that comes out by any mingling of tints on the paper looks like a stain, a splash, a rusty discoloration, or a spattery patch, depends upon the degree of wetness, or near dryness, of the tints. An exceedingly watery tint added to one nearly dry comes out one way; a bit of thick pigment touched to a wash just floated in comes out another way; and two tints combined of the same degree of strength in still another way. The kind

of paper used and the nature of the pigments are also determining factors in textural appearances of these effects. Occasionally two paints are encountered, the particles of which are antagonistic to each other, and their refusal to blend gives delightful textural effects for some details of architectural subjects.

Shadow colors on the ground are usually meant to be in flat effects that are washed in from the tints mixed in the saucers, or the partitions of the color box. Variations, however, are given to these effects by occasional touches of some other color to the shadow color while it is still wet. For instance, a shadow made by mixing indigo and light red could have a tiny touch of alizarin crimson added in a place where it would be effective.

The peculiar rough textures of rocks are sometimes made by deft manipulations of the brush, one of which is to have the painting tool partly filled with color and made to skim the surface of the paper so that only the raised part of the surface catches any color. Or a brush filled with rather thick pigment is dragged over the surface —of rough paper—to leave a skimpy patch of

color. In other methods a hog's hair brush is employed. The choice of a brush is a concern of individual preference. Although an aquarellist is sometimes likely to procure all his effects, large strokes and small ones, with the same kind and size of brush and have but a small selection of extra ones on hand, the possibilities of all the various forms of painting tools should not be overlooked.

CHAPTER XII

CONCLUSION

THE quality that made some picture stand out before all others at an exhibition was sure to have been that of individuality in some form or other. This individuality could have been expressed in various ways: color; light and shade; tone; drawing; technic; composition; or by the nature of the subject or the kind of theme. One of these particulars, if not exactly dominating everything, was sure to have made its presence known by a fulness, or emphasis, of its special quality. The splendor of the color attracted us; a strong effect of light and shade—chiaroscuro—overshadowed everything; a quiet prevailing tone exerted its influence over us; something strange about the rendering—the drawing—was very conspicuous; a peculiar way the paint was applied—the technic—stood out; an impressive composition made itself evident; or the subject happened to be one striking a sympathetic chord within us. Re-

specting this latter item: subject, or in another regard, literary quality, we frequently give it our attention before we notice the other particulars—the artistic qualities—the very ones we should attend to first.

CERTAIN QUALITIES OF WATER-COLORS

Color.—Some pictures show a full range of colors in all the hues that possibly could be made with the pigments of the color-box. Or the range of colors is restricted, not, however, to so few that a picture would be looked on as a monochrome. Then in some picture an adequate scale of colors is present, only the colors are subdued, broken by much mixing, or darkened as if a black paint were used with them. Then a picture shows some prevailing color: yellow-green in a preponderance of delicate foliage; grayish-blue of a quiet landscape; or a stronge purple in a brilliant scene with many patches of vivid shadow.

Light and shade.—The typical oil painting shows much light and shade, which when especially striking is spoken of as chiaroscuro. Sometimes, too, a canvas shows a division of the two

elements, light and shade, into well-marked contrasted areas as in the pictures of Rembrandt. It is rare that these sharp effects are found in water-colors; instead, lights and shades are usually distributed evenly. But still there are different manners of this distribution of light and shade and varying degrees of their strength. Much depends upon subject, the arrangement and kinds of components and nature of the light. A picture of an extended view with inconspicuous, though many, details could have these details with only feeble shadings. Another picture of a view in summer at midday shows only a few shadows under objects (trees) from an overhead sun. Still another picture is of a brilliant tropical scene with a dominant shadow in contrast with a dazzling light but which has variations in other parts of the picture by smaller shadows and lights.

Tone.—Pictures in tones usually represent scenes in which the sun is completely obscured. It could be by an ordinary overcast sky, haze, fog, or mist. These effects give varied degrees of dimness and divers modulations of color. There could be a gray-cold atmosphere under a leaden sky, the blu-

ishness of haze, the grimy yellow of fog, or the whitish vagueness of mist. Water-color pictures of this kind are frequently made with the paper kept moist while the tints are painted quickly in watery washes. These are allowed to run into one another with a certain amount of guidance by the brush-point. Pictures are painted also in prevailing tones of browns as in some autumnal sketches, in delicate greens for springtime scenes, or in some modulated color according to the preference of the artist.

Drawing.—The kind of delineation in a picture that passes unnoticed, as a rule, at a superficial glance is the normal and correct. This shouldn't be so, but it is. Only when some unusual manner of depiction—as well as bad drawing—comes under our eyes do we begin to think about draftsmanship. It is expected that a picture be drawn correctly; that is why we are apt to neglect this particular in our first appraisement of paintings. Still, different kinds of drawing make different styles in pictorial art. Details may be defined graphically, or the forms are all blurry. Or a picture may have the details with their outlines quite unobtrusive

and yet correctly drawn. Then the visual aspect of things may be correctly rendered, as the camera would see it, or depicted according to the picture evoked by the impression made on the mind. An extreme case of the latter is a modernistic view of a New World city street in which the buildings are drawn as if they were going to tumble over to crush the spectator.

Technic.—This comprises the handling of brushes and the special manners in which pigments are applied to surfaces as substances with only a secondary consideration of the effects pigments create. As in other particulars the normal and conservative may pass unnoticed and excite less interest than something unusual. The unusual quality may be by very small strokes, or large bold ones; an accumulation of stippled dots, or broad vigorous washes. Then the shadings could be smooth with realistic modelling, or the forms blocked-out in definitely shaped masses by a robust handling.

Composition.—Three divisions of this theme should be especially noticed: (1) A picture clearly and boldly shows some idea of composition, or an

arrangement of parts; (2) A picture has a plan of some kind but it is expressed with refinement and moderation; (3) A picture is lacking in all of these particulars. A work coming under this last division immediately is dismissed from any consideration on our part. Whether an artist plans his pictures with the structure unmistakably apparent or, on the other hand, subtly disguised, depends upon his individual manner in pictorial creation. A picture, to give satisfaction to the artist himself and to be worthy of notice by others, should have some sort of plan. It need not be built on the conventional, and very common, geometrical structures. It may be a simple arrangement of lines, areas, patterns, or in the modern manner of an expression of rhythmic forms.

Subject or theme.—Modern art takes little account of any literary idea in a painting. A title may be bestowed upon a picture of this school, but it will be more in the nature of an identification tag as the principal reason for the creation of the picture was probably to express an artist's emotions. This may have been an unusual color scheme, by a rendering in a strange technic, by an

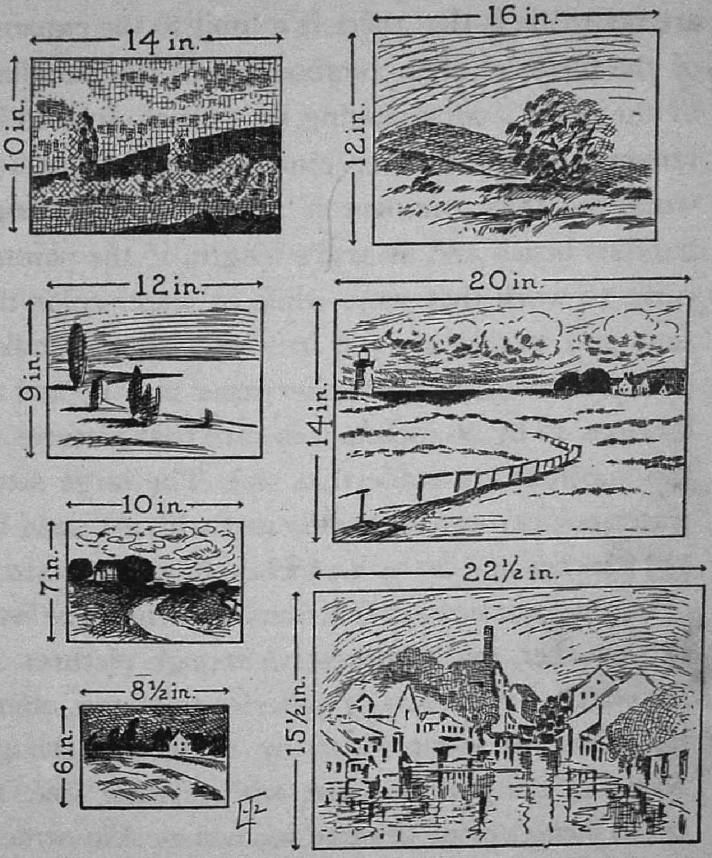
uncommon arrangement of components, or, a difficult of understanding, and impossible of describing, "abstraction."

Certain distinctions should be noted now respecting an artist's attitude toward his model, that is—in accordance with the theme of this book—a landscape view. In pictures where rhythmic qualities are supposed to obtain; in those in which the maker wishes to express æsthetic ideas of his own; or when a work of creative art—modern style—is to be brought into the light of day, the details of nature may be changed, some eliminated and others put in. But it is different with a landscape that, according to its title, represents a certain locality or a building. Such a picture must be a faithful copy.

Besides the qualities which we have just deliberated upon, an artist discloses a little of his individuality by the frequent choice of some particular size for his pictures. There are artists who never make anything else but small pictures, while others use the largest size paper that conveniently can be worked on by water-color technical methods. One of the reasons that water-colors of great size

are not made is that there is a limit to the expanse of the pictorial area commodious to the handling of the brush and spreading of washes. It is to be remembered in further explanation that in oil-work the thick pigment is applied with a long-handled brush and at arm's length, if the painter cares to work that way, while in water-color the tints and washes are put in with a short-handled brush. Although water-color paper may be had as large as 40 by 26 inches, it is rare that pictures in this medium are made that size. The large sized water-colors most frequently met with are 22½ by 15½ inches and 20 by 14 inches. These two sizes, or slight variations in fractions of inches, one way or the other, make impressive enough pictures on the walls of museums or galleries to attract attention. Smaller pictures, 16 by 12 inches, though found in the galleries, are, with another size, 14 by 10 inches, more suitable for homes. Any water-colors smaller than the above sizes are very apt to be thought of as sketches, even though they have all the qualities of completion.

As any one may see in galleries, landscapes in oil are usually painted on canvases that are



REPRESENTATIVE SIZES IN WHICH WATER-COLORS ARE MADE.

wider than high. This elongated rectangle is quite in harmony with the line of the horizon in a picture. Landscapes in water-color are also mostly of

elongated rectangles but as it is rather frequent that architectural subjects are painted in water-colors, upright rectangles are often used. The chief characteristic of a shape higher than wide is verticality. This characteristic is quite in harmony with the principal characteristic of buildings—vertically, making the upright rectangles appropriate for these subjects.

Water-color paintings are with few exceptions displayed in frames, under glass and with mats. It is so much the custom to show a picture of this medium with a wide margin of cardboard around it that when we see one without a mat we are disturbed by this departure from tradition. The singularity of this is that there is no apparent reason for it except the rule of the usual.

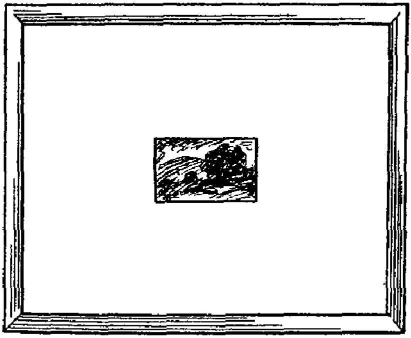
In the ordinary methods of framing water-colors we have the frame itself, glass, mat, some sort of extra cardboard backing, a thin board serving as the final backing, and a stout piece of paper pasted over the back to make it all air-tight. Frames for water-colors are usually made of plain narrow strips of wood or mouldings of very simple design. It is not often that frames for this pur-

WATER-COLORS OF ARCHITECTURAL SUBJECTS ARE FREQUENTLY MADE IN UPRIGHT PANELS.

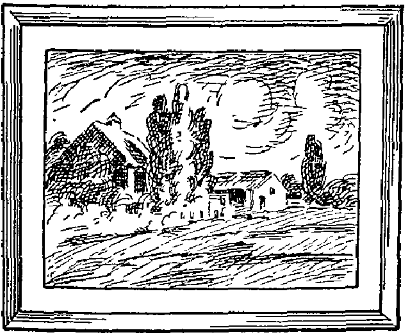
pose are as ornamental as those used for oil paintings. Water-color frames are painted white, or they are painted a shiny black and have in addition a thin strip of gilt molding on their inner margins. Frames may even be unpainted, or not even varnished. A mat is of heavy cardboard the size of the frame with an opening cut in the middle within

the space of which the picture is exposed. Frequently the edges of the opening are cut on a bevel, especially if the mat is of a very thick cardboard. It is very difficult to cut this bevel edge of a uniform slant. If it is not well done it is best to do without it and have a plain straight cut. The cardboards for these mats vary in surface texture, color and thickness. The most commonly used is a cream-colored card with a coarse egg-shell surface. Other colors are: pearl-gray, ochre, fawn, straw, buff and granite-blue. A mat covered with gilt-bronze is sometimes used with a water-color. This does not make a very good contrast for the average picture as its shiny lustrous effect is in conflict with the brilliant colors, generally present in water-colors. A mat covered with bronze or gold leaf is suitable only for a picture in rather dark colors; say deep tones of brown, or rich greens.

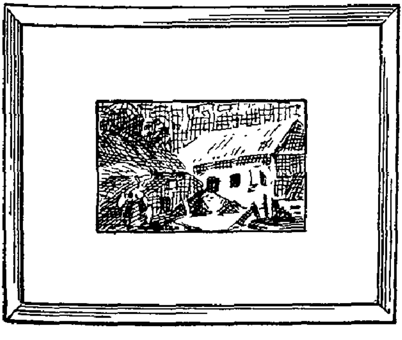
Sometimes a mat is elaborated with a series of lines close to, and surrounding, the opening where the picture is displayed. These lines vary in weight and width of spaces between them. The general effect is something like this: first the edge of the



Mat the feature rather than the picture.



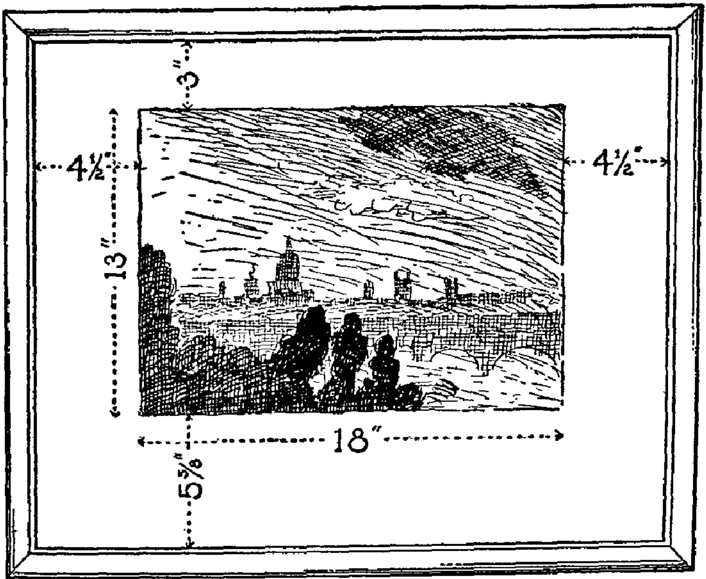
Mat so narrow that its effect is lost.



Well-proportioned mat.

RELATIVE PROPORTIONS OF MATS AND PICTURES.

opening, next at a little space away, a thin line; then a double line of a thin and a thick one to be followed by a wide one of a lighter color with next, perhaps, another thin line. The lines are of same color, neutral brown, pale blue, or dark yellow. Sometimes a narrow ribbon of gilt tinsel is pasted around a picture close to the opening of the mat to form a border. This (unnecessary) line and tinsel decoration of mats is put in practice mostly for old prints and drawings. It has, especially when there is the elaboration of the gilt tinsel, an old-fashioned air. Interesting examples of this profusion of items in framing once came under the author's notice. It was at an exhibition of old prints, drawings, and water-colors in which the frames were all of one size. This made it possible to dispose the works of the collection on the walls in an orderly and methodical manner. But in the case of some small pictures it gave them unusually large mats. So to add more eye interest, in any particular example, to the space between the small picture and the frame, a complicated series of items was made. There were, in one case noticed, three cardboard sections: the water-color



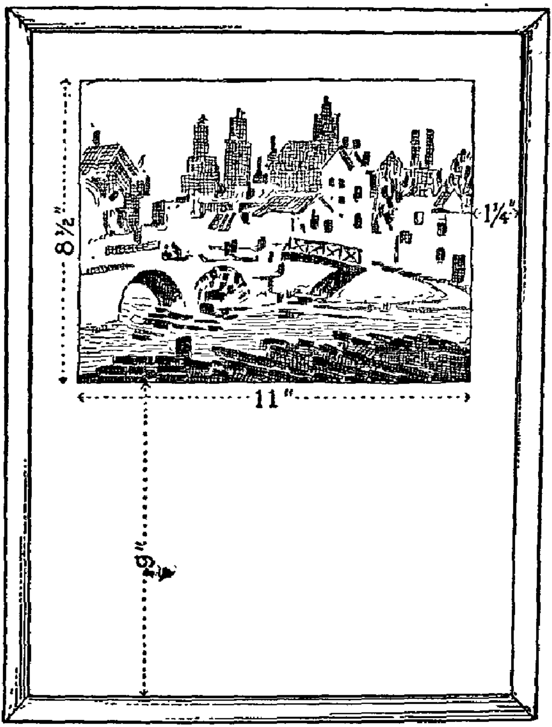
FROM A WATER-COLOR IN THE BROOKLYN MUSEUM
"VIEW FROM MY WINDOW—LONDON"
JOSEPH PENNELL

was mounted on the first one which was bluish-gray, next came the creamy mat, and then a white cardboard showing in a space between the bluish-gray card and the creamy mat. There were some blue lines ruled on the bluish-gray card and a gilt-bronze border painted close to the picture's edge.

Of consequential concern respecting harmony of proportions is the size of a mat to that of a

picture. Frames for water-colors, as stated, are generally of narrow sections, plain and seldom ornamented. The width that the four spaces of a mat show between a picture and the four sections of a frame should be such that the mat itself is not noticed at a first glance. If these spaces are so large that the mat stands out at once and the very small picture in the centre is only observed at a second glance, a glaring disharmony is present. It is quite true that occasionally an etching, or a very dark print, is placed in a large frame and surrounded by an unusually large mat to make it a detail of interior decoration to which the eye is led. In continuation of the theme of a properly proportioned mat: if in direct opposition to the large mat we have one so small that its narrow margins seem to belong to the frame, another discordance arises.

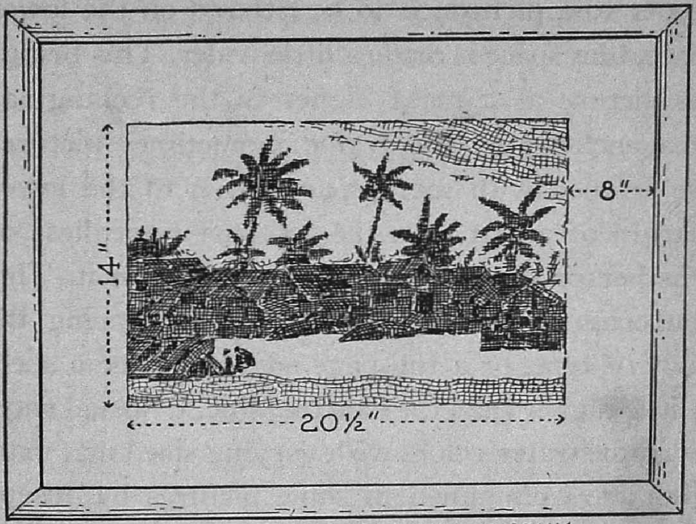
There is no rule by which to calculate the correct size of the frame and its mat for a picture to have the parts harmoniously proportioned. The nearest thing to a rule is the avoidance of making the "members"—architecturally speaking—equal. This means that the frame width and mat margins



FROM A WATER-COLOR IN THE BROOKLYN MUSEUM
"BRIDGE AT SOISSONS"
JOSEPH PENNELL

should be at least unequal. Whatever the mat size is, it should never be so large as to stand out as the feature. Ordinarily the margins of a mat, the four spaces between the picture and the frame, are of the same width, but when a title, or legend,

proper to a picture, is to be lettered on the lower space, that space is made a little wider. This brings the picture as a mass higher in the rectangular area enclosed by the frame. Sometimes pictures are framed with more space given to the lower margin of a mat than the top part regardless of whether or not any lettering is to go on it. This conforms to the general practice of placing the body of type, or a full-page engraving, on a sheet a little higher than the exact middle. Unusual ways to frame water-colors with varying sized mat margins are exemplified in some pictures by Joseph Pennell, in the Brooklyn Museum. Two are shown on pages 207 and 209, by thumb-nail impressions with the details of the margin-sizes marked in inches. Two more pictures, selected from the many in the large and interesting collection of water-colors in the Brooklyn Museum are also illustrated here (see pages 211 and 213), with the specifications of framing likewise indicated. One of these pictures is by Winslow Homer (1836–1910), and the other by John S. Sargent (1856–1925). Now and then a drawing or water-color is framed with a mat with indentations on one side. That is the

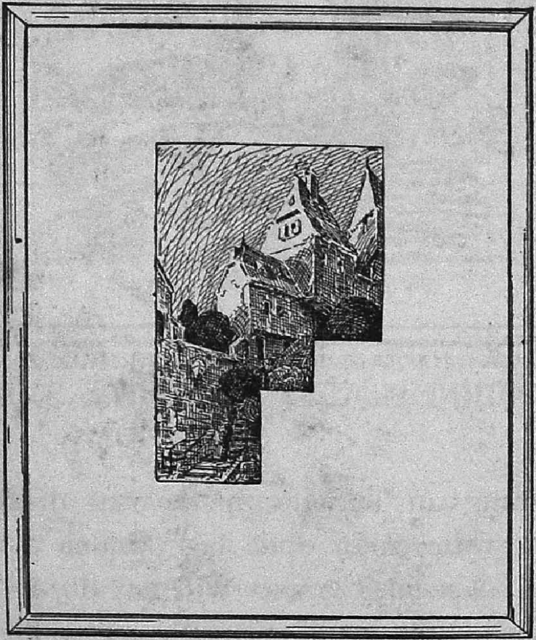


FROM A WATER-COLOR IN THE BROOKLYN MUSEUM
"KEY WEST" WINSLOW HOMER

mat is cut so as to leave right-angled sections that hide uninteresting parts of the picture. This kind of mat is usually applied to a vignette illustration, which if framed with a four-angled opening would show too much white space of the paper holding no pictorial details.

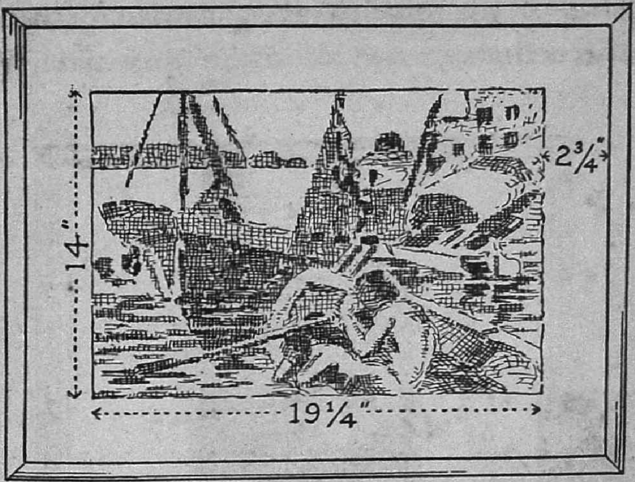
It is the worth-while pictures that we frame. Sometimes we have a little sketch that we like, but as it is hardly important enough for a frame we display it in a passe-partout arrangement. This

consists of the picture, glass, cardboard backing, and sometimes a mat, all of the same size. When



HOW MATS ARE SOMETIMES CUT FOR WATER-COLORS AND PRINTS.

these parts are placed together in their proper order a length of adhesive paper tape is passed around the four edges to hold all together.



FROM A WATER-COLOR IN THE BROOKLYN MUSEUM
"UNLOADING PLASTER" JOHN S. SARGENT

Nothing can be done, in the way of cleaning, with a water-color that has become soiled or spotted. A rubber eraser will not do, as its use over the picture would change some of the colors. There is only one thing to do, lessen the chances of soiling by framing water-colors under glass. Another reason for covering water-colors with glass is that it prevents, or at least retards, the tarnishing of colors by gases in the air of cities and towns. Here in these places fumes from coal-

fires and gases from sewers and drains are detrimental to the purity of certain colors, of which emerald green, French blue, new blue, the chrome yellows, and chrome orange are especially to be mentioned. As a certain amount of air is supposed to be present between the glass and the picture a very thick cardboard is chosen with which to make the mat. The air space then is supplied in the opening cut in this thick mat.

Water-color paintings are reasonably permanent and retain their hues for years if the colors used are from a selected list and the colorman's suggestions followe l respecting certain mixtures. Furthermore, in this consideration, if they are framed properly so as to protect them from gases, moisture, and soiling, and kept away from the glare of strong light, years will be added to their life.